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DECEMBER • 1956

Sectional INDEX

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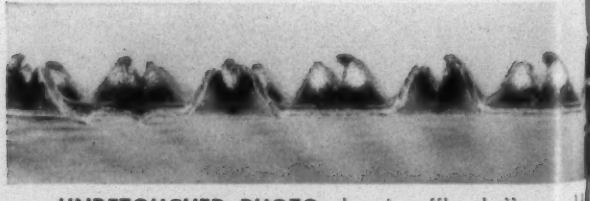
IMPROVED TAKE-UP ROLL COVERING REDUCES SECONDS

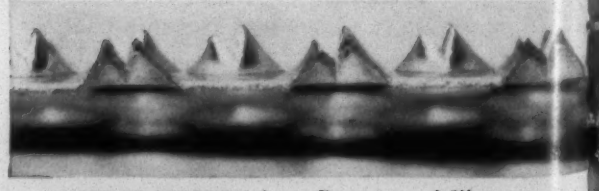
A new manufacturing method perfected by Draper Corporation now makes it possible to produce *a steel fillet covering which has uniform perforations.*

The Draper steel fillet take-up roll covering eliminates "hooks" or irregularities commonly found in fillet coverings. In addition, cloth is held firmly without the danger of cutting or tearing fibers.

This steel fillet is currently available in three grades; *extra-fine, fine* and *medium.*



UNRETOUCHED PHOTO showing "hooks" on old style fillet covering which cut or tear cloth fibers.

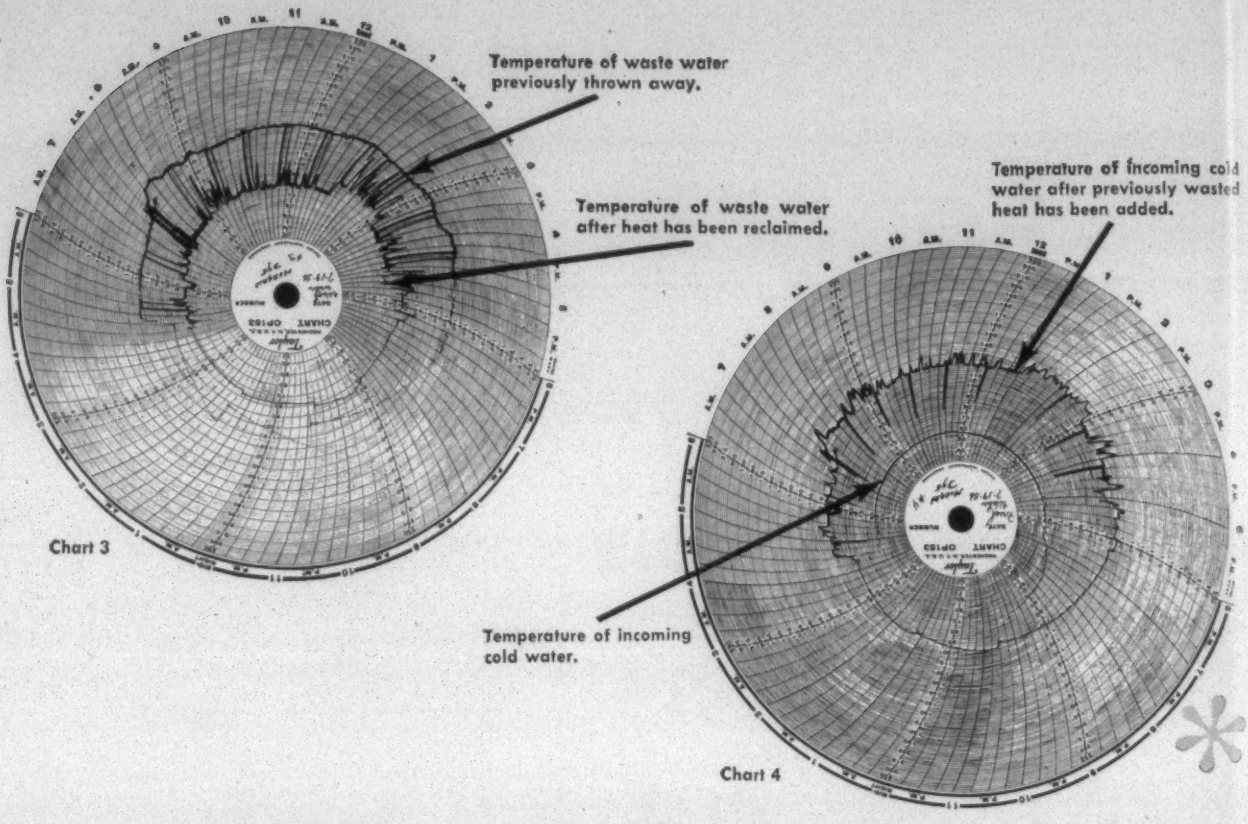


ACTUAL PHOTO of new Draper steel fillet covering illustrating uniformity of perforations which reduce cloth seconds.

DRAPER CORPORATION

HOPEDALE, MASSACHUSETTS

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.



How a **BREADY SYSTEM** of heat recovery solved the boiler overload problem of Morgan Dyeing and Bleaching Company and gave them **STEAM TO SPARE**

Reported boiler peak loads of 50,000 lbs. are down to 26,000 lbs., fuel consumption has been sharply reduced, dye kettle fill time of 25 to 35 minutes is now 5 to 6 minutes, production time has been substantially reduced, with a reserve supply of hot water.

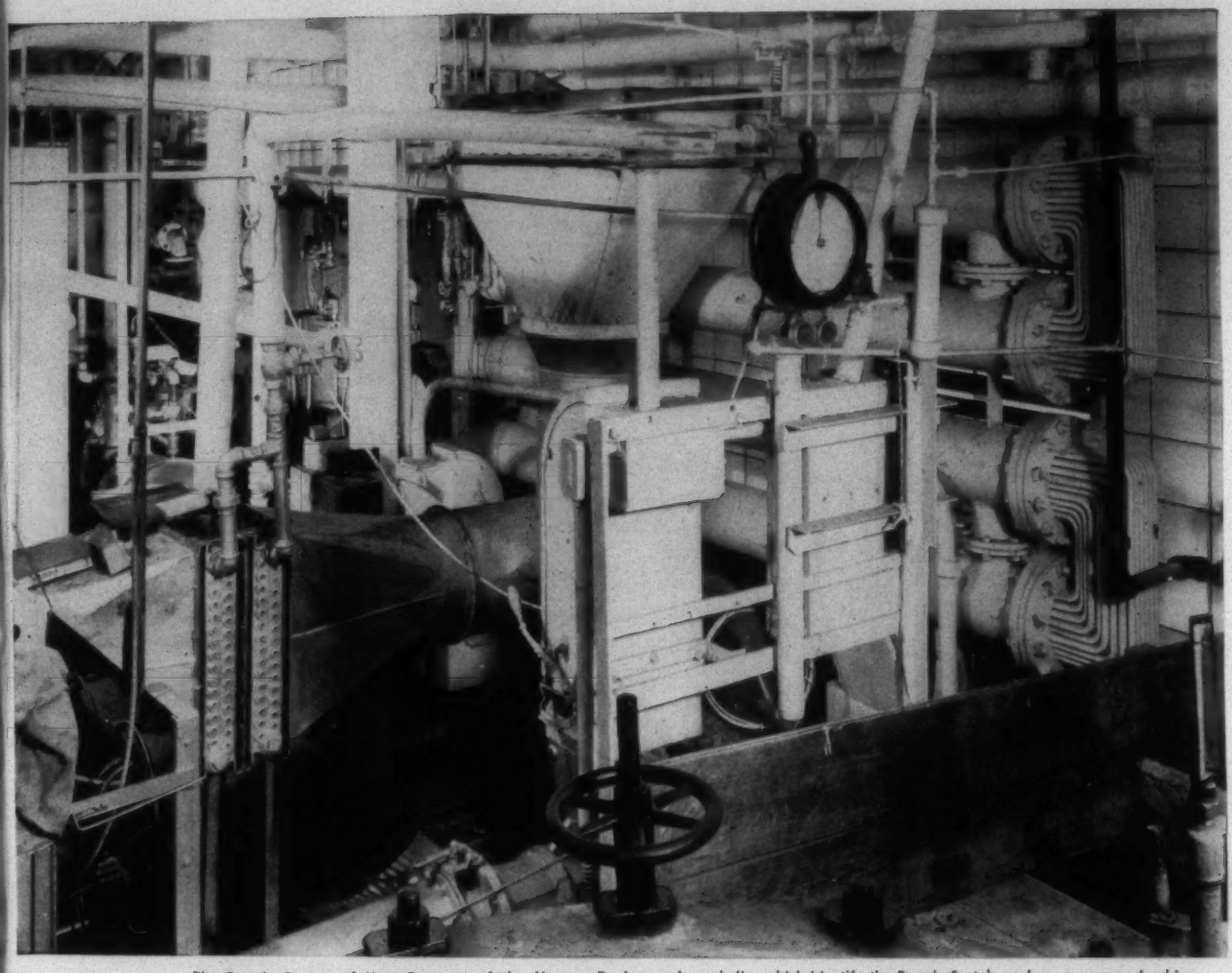
Boiler peak loads of the Morgan Dyeing and Bleaching Company, Rochelle, Illinois, last winter, were seriously in excess of boiler capacity. Purchase of hot water that a neighboring mill could furnish without seriously affecting their own production, only partially helped to relieve this situation. There was need for action, and Francis J. Connolly, purchasing agent, contacted Ludell to see what could be done.

Ludell engineers studied the problem. They surveyed the company's entire hot water heating system and determined the Bready System of Heat Recovery that would meet the plant's requirements.

The actual *Temperature Charts* from the Bready System of Heat Recovery, at Morgan, (see top of page) show the incoming 55°F water heated to an average temperature of 120°F, the desired hot water starting temperature, utilizing the waste heat from process effluent having an average temperature of 130-135°F. The momentary dips in the No. 4 chart show the system *automatically* cleaning itself. The only steam required for process water is that which is used for boil-off operation.

Today, Morgan Dyeing and Bleaching Company at Rochelle, Illinois, has all the steam needed for its present production. It now has boiler capacity to sell steam to the neighboring mill. Based on boiler load figures, a reduction of fuel costs of 41% is indicated. Equally important is the fact that the Bready System of Heat Recovery made the purchase of an additional boiler, fuel required for the boiler and building to house it, unnecessary.

Formerly, Morgan Dyeing and Bleaching Company took 25 to 35 minutes to fill and heat water in dye kettles before



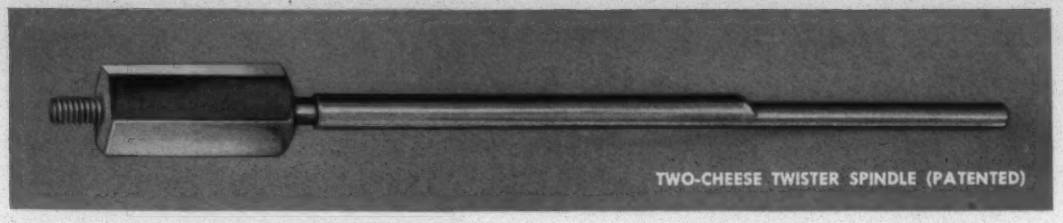
The Bready System of Heat Recovery of the Morgan Dyeing and Bleaching Company was installed next to a wall of the plant and occupies only a few square feet of previously unused floor area. The continuous U-shaped tube bundles connecting the reclaimer shells, which identify the Bready System and are a means of achieving its guaranteed non-clogging feature, are at the right. Because other plant equipment has since been installed, the control panel and self-cleaning segments of the system are obscured from view.

actual processing operation could start. With the Bready System, the dye kettles are filled in about 5 minutes with water at desired temperature so that process can begin immediately. With a 20 minute reduction per fill multiplied by the number of fills and vats, a tremendous overall decrease in actual operating time was realized. The system will pay off in 25 months.

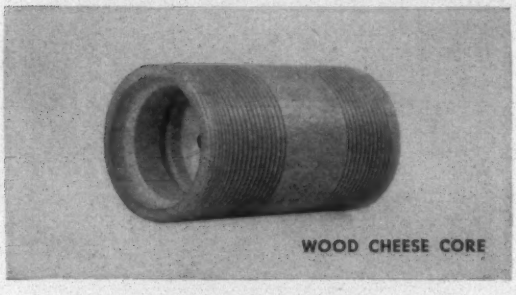
The boiler overload problem of Morgan Dyeing and Bleaching Company is not without its counterpart in many other wet processing plants. Boiler peak load reductions, production increases, fuel reductions and other economies can be effected in these plants with a Bready System of Heat Recovery as they were accomplished at Morgan.

Bready Systems of Heat Recovery are as important as an integral part of new plant hot water heating systems as they are in solving existing plant hot water heating problems. It will pay you to investigate all the benefits of a Bready System of Heat Recovery as it specifically applies to your present plant, or any new plant installation. Write, wire or phone Ludell today for detailed information, or a free plant survey.

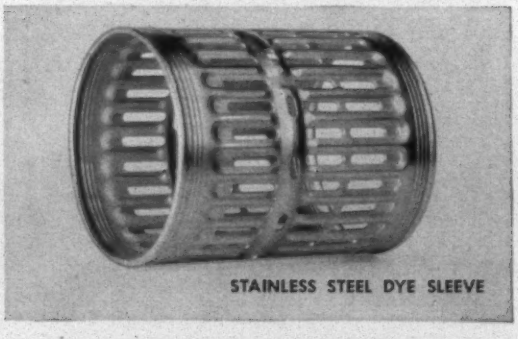
BARBER-COLMAN ACCESSORIES



TWO-CHEESE TWISTER SPINDLE (PATENTED)



WOOD CHEESE CORE



STAINLESS STEEL DYE SLEEVE

BAKELITE CHEESE CORE SLEEVE

USE THESE BARBER-COLMAN PRODUCTS FOR BEST RESULTS

The accessories shown here are carefully designed and developed by Barber-Colman Company for use on Barber-Colman machines. • The Twister Spindle, used with wood Cheese Cores, is a new idea that makes for better twisting. The offset on the end of the spindle retains the outer cheese and lets it run free of the inner one. Thus, by mounting two cheeses per spindle, the height of the twister creel is reduced. • The stainless steel Dye Sleeves fit the same holders on the Automatic Spooler as the regular plastic Cheese Sleeves and were designed and developed exclusively for this Barber-Colman machine. • Since all of these parts are made of best materials to very close limits, they not only are accurate, uniform, and durable, but also insure *top performance* of your machines.

BARBER-COLMAN SERVICE WILL KEEP YOUR MACHINES AT THE PEAK OF PRODUCTION

For many years Barber-Colman Company has maintained a high-grade Service Department, and made its facilities available to all owners of Barber-Colman equipment at reasonable cost. The men who staff this Department are all experienced hands, trained to handle the special problems of Barber-Colman equipment. They are backed by the knowledge and experience of the entire Barber-Colman organization. You can employ this Service in any manner you wish — on a regular contract basis, for specific problems, or in any emergency. *See your Barber-Colman representative for details.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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ROCKFORD • ILLINOIS • U. S. A.

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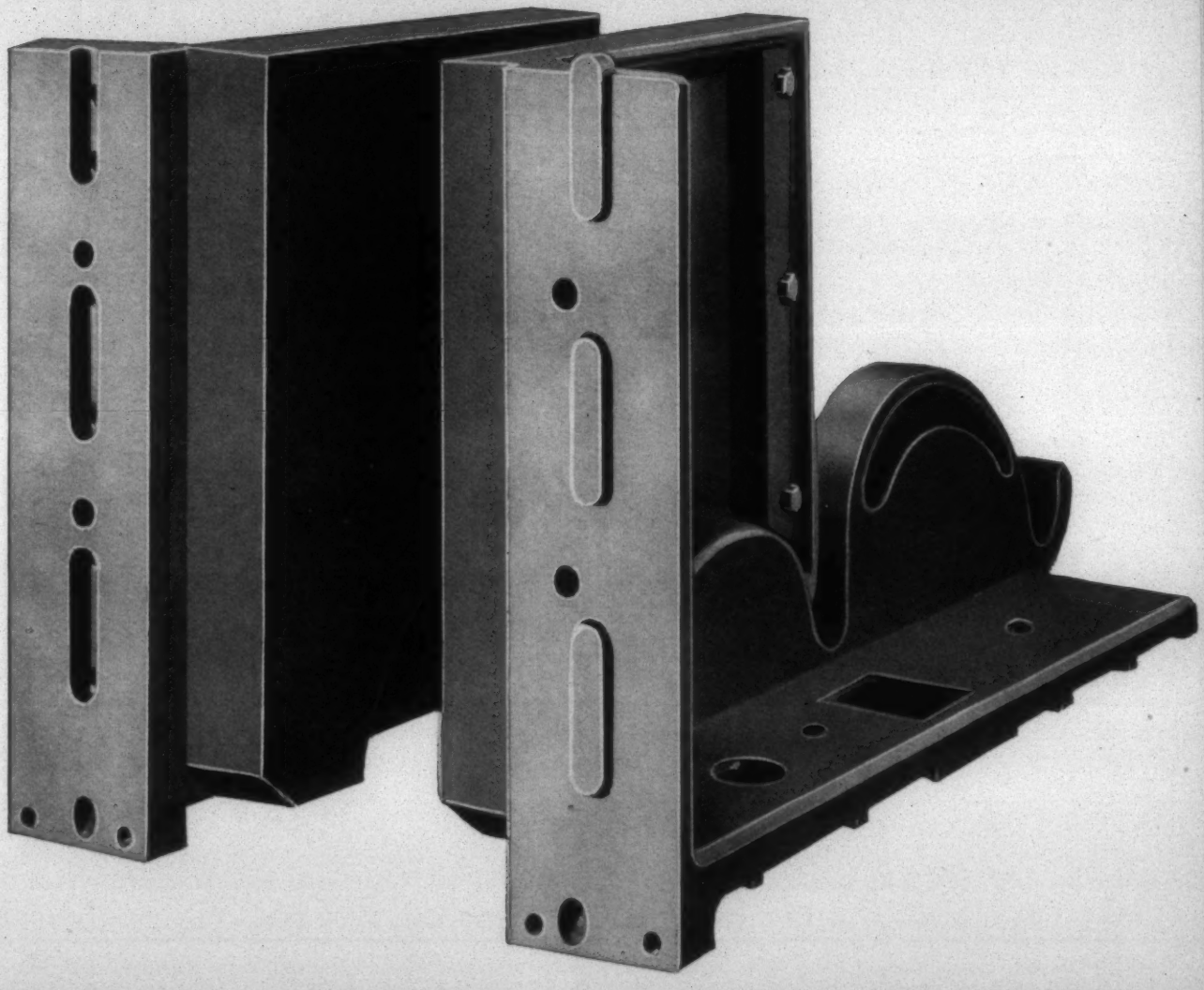
New Pickers?



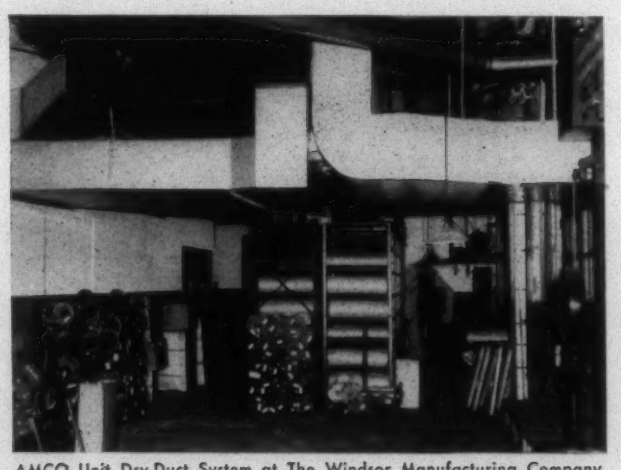
AMCO Humidification System installed at Caron Spinning Company, Robesonia, Pa. The highly sensitive AMCO Cyclestat Control holds humidity within narrow limits.

There's an AMCO AIR CONDITIONING SYSTEM designed for YOU!

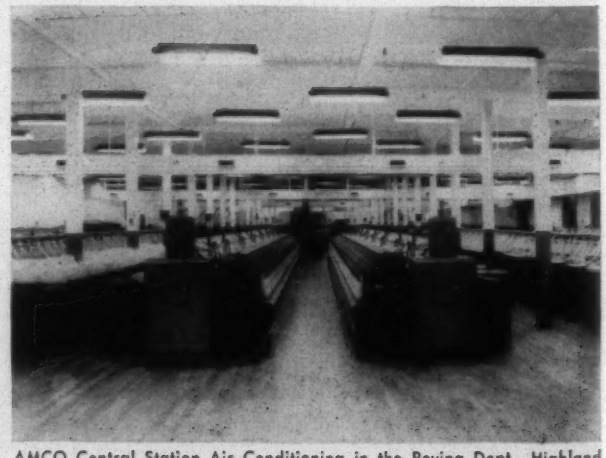
When you think of air conditioning, remember that AMCO offers systems and equipment for every manufacturing requirement and every climatic condition. There are four different types of AMCO systems, alone or in combination: humidification, evaporative cooling, unit dry-duct, or central station air conditioning. And because AMCO engineers have these four basic systems — plus all associated equipment and controls — they are able to offer you unbiased advice on the *best* system for your particular need.

If you want the facts about textile mill air conditioning, with the advantages and limitations of each system detailed, as well as answers to such questions as cost, adaptability, capacity, maintenance and operating expense, write for AMCO's booklet, "AIR CONDITIONING for the TEXTILE INDUSTRY". Or better still, ask AMCO to recommend, without obligation, the system best suited to your mill.

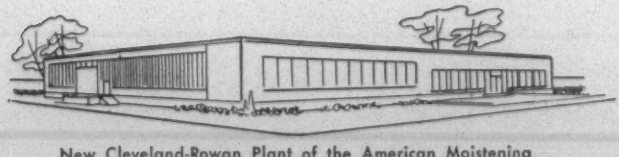
AMCO Evaporative Cooling System in Texas Textile Mills, McKinney, Texas. Note window units which control mixture of fresh and recirculated air.



AMCO Unit Dry-Duct System at The Windsor Manufacturing Company, Philadelphia, Pa. The entire unit is installed overhead out of the way.



AMCO Central Station Air Conditioning in the Roving Dept., Highland Park Mills, Charlotte, N. C. This is AMCO's highly efficient split-system.



New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY, CLEVELAND, NORTH CAROLINA • ATLANTA, GA. • BOSTON, MASS. • CAMDEN, N. J. • PROVIDENCE, R. I.

Do they both hold 4 aces?

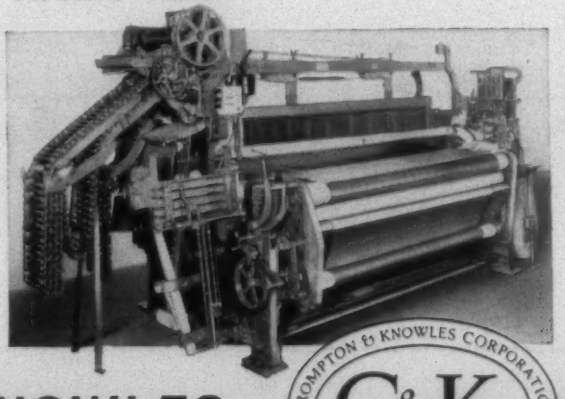
(...does Casey tell Trimble?)

No trick to it all. Of course they can *both* win . . . just as everybody wins . . . if they have a woolen or worsted weaveroom loaded with C & K's W3 and W3A Looms equipped with the unique and exclusive Select-A-Pic feature.

For no other looms can do what these looms can do . . . and that is to produce *automatically* pick-and-pick fabrics like plaids and splashes which . . . on any other types of looms . . . can only be woven *non-automatically*.

PROOF: Over 600 Select-A-Pic Looms are now in daily operation, and have been for some time. In that time, 11 customers reordered once . . . three customers placed 3 repeat orders each . . . two customers reordered 4 times . . . one customer reordered 5 times . . . one customer reordered 9 times . . . and so on down the long list.

REPEAT: There's no proof of performance like repeat orders. And if you want to see what brings in these repeat orders, *come see C & K's Select-A-Pic Looms in action.*



CROMPTON & KNOWLES CORPORATION C&K WORCESTER MASS. U.S.A.

CROMPTON & KNOWLES *Corporation*

WORCESTER 1, MASSACHUSETTS, U.S.A.

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Dayton Thoro Check
Dayton Thoro Check
Dayton Thoro Check
Dayton Thoro Check

Exclusive graduated braking action of

Dayton ThoroCheck Straps reduces replacement 25-50%

Protects entire picking mechanism

Snubbing the picker stick to a graduated stop does even more than reduce replacement and maintenance costs of Dayton Endless ThoroCheck Straps. It gives you added savings by protecting and lengthening the life of pickers, sticks and shuttles.

Here's how Dayton's exclusive graduated checking action works. Instead of one wide strap, you have four narrow super-strength endless straps, which are quickly and easily installed.

The natural motion of the stick causes it to strike the top strap first. Under the impact, it "gives" slightly. A split second later, the second strap goes into action. Similarly, each of the straps slows the stick until all four Dayton Endless ThoroCheck Straps have taken hold. Then, with all four gripping the stick firmly, they bring it to a smooth, controlled halt.

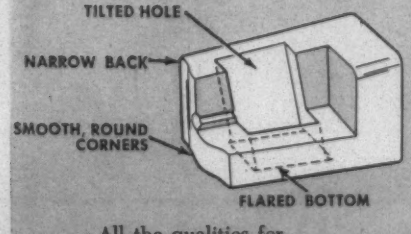
Impact is spread equally over the four straps. This more even distribution of snubbing action, plus greater tensile strength, is the reason Dayton Endless ThoroCheck Straps give 25-50% more wear.

This additional service has been proved in mill after mill.

Pickers, shuttles and sticks last longer, too, because Dayton check straps bring the stick to a "cushioned" stop. Temperature or humidity never affect Dayton ThoroCheck Straps, so you're assured fast, Monday starts.

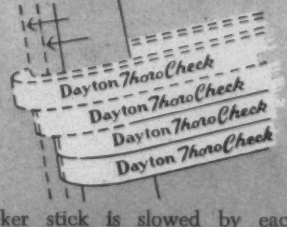
For more information on the savings and equipment protection you get from Dayton Endless ThoroCheck Straps, call your mill supply jobber or write The Dayton Rubber Company, Textile Div., 401 S. C. National Bank Building, Greenville, S. C.

Dayton Thorobred Loop Picker



All the qualities for perfect, longer picking

Dayton Endless ThoroCheck Straps



Picker stick is slowed by each Dayton Endless ThoroCheck Strap. Then all four cushion it to a halt, distributing the wear, impact.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving

Fairtex Combination Yarns

. . . made to your order

by Branson

Strong, pliable, easy-to-work combination yarns by Branson are custom-made to your specifications.

Combinations of metallic, synthetic or natural yarns . . . elastic, supported metallics . . . are expertly manufactured in the Branson plant.

Highly skilled technicians, together with the most modern equipment and methods, produce combination yarns that are guaranteed to run smoothly on your machines.

For strong, pliable, easy-to-work Combination Yarns . . . tell us your requirements . . . let us work out the details with you.

Branson Company

1808 Liberty Life Bldg. • Charlotte, N.C.

Plant: Monroe, N. C.

**Dupont's TM for polyester film.*

CHICAGO
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Robert Napier
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Gossett's NEW BIG drawing coiler gives

TWICE the continuous running time ... HALF the creeling time!

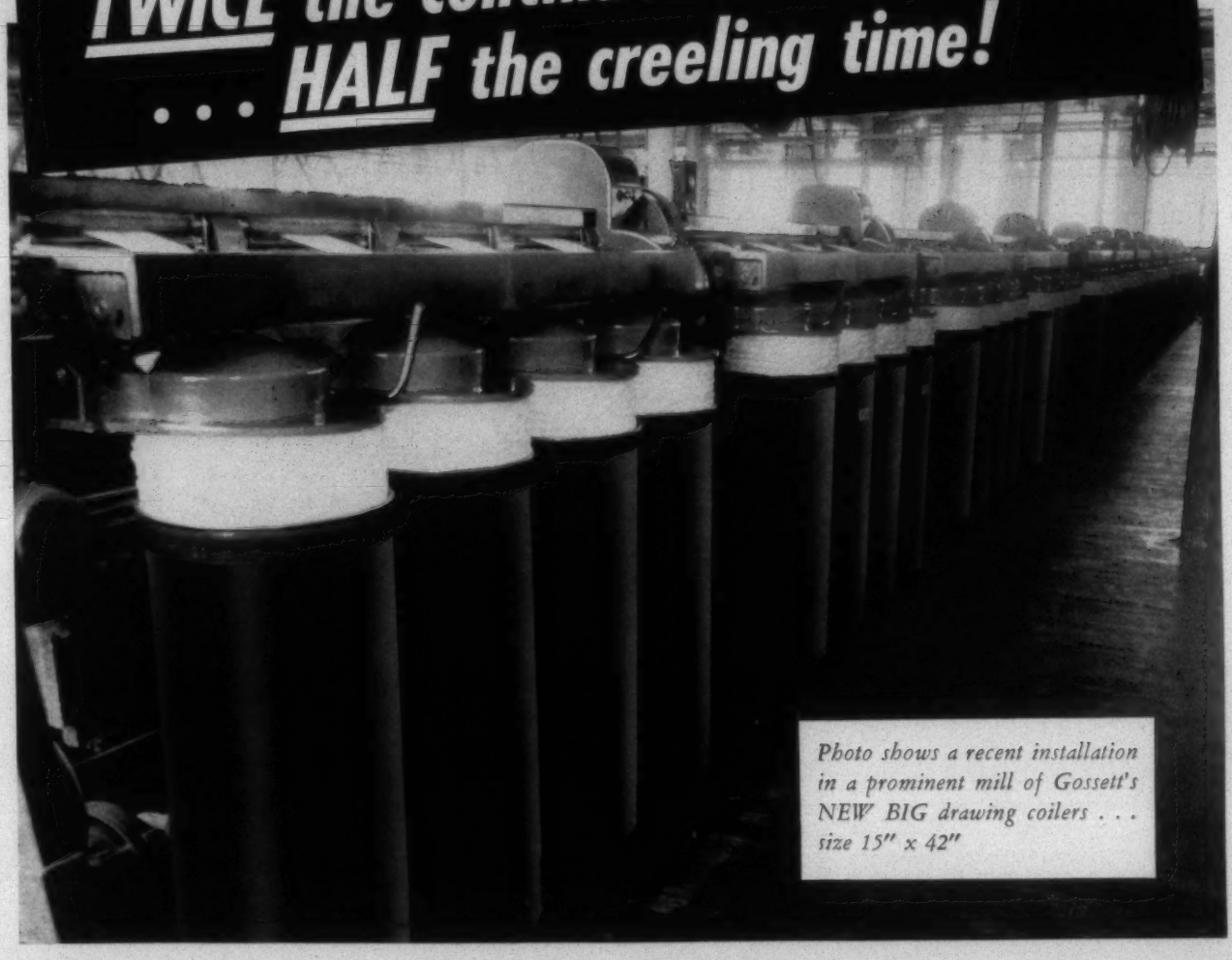


Photo shows a recent installation in a prominent mill of Gossett's NEW BIG drawing coilers . . . size 15" x 42"

From Gossett Machine Works, pioneers in the big coiler conversion technique, comes Gossett's NEW BIG Drawing Coiler!

Here's THE big coiler which is especially constructed for greater all-round efficiency at high speeds!

Smooth, low-noise operation and longer wear are features built-in by Gossett's master technicians.

Get twice the continuous running time . . . cut your creeling time in half . . . install Gossett's NEW BIG drawing coilers on your present drawing frames NOW!

We convert 10" and 12" drawing coilers to 14" through 15" in diameter and 36" to 42" in height.

For full information and prices, write

B. W. GOSSETT
President

E. C. MASON
Sales Manager

D. W. SMITH
N. C.-Va. Representative

GOSSETT Machine Works, Inc.

GASTONIA, NORTH CAROLINA

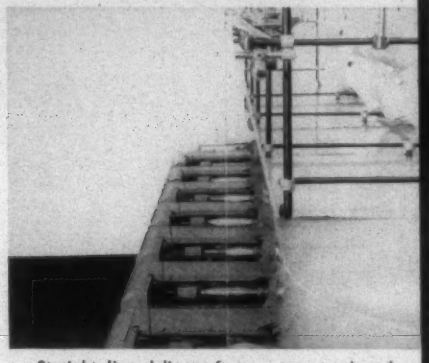
FOSTER-MUSCHAMP MODEL 66*

Automatic Filling Winder

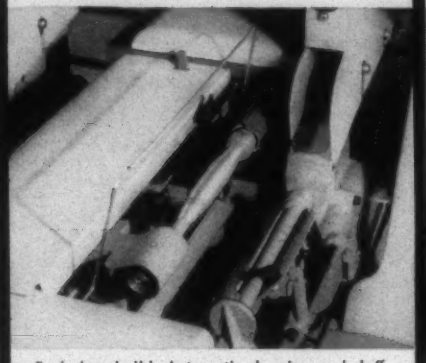
A NEW HIGH IN WINDING QUALITY · A NEW LOW IN WINDING COSTS

The Foster-Muschamp Model 66 Automatic Filling Winder produces uniformly perfect bobbins (without starting tails) with a spindle speed of 15,000 r.p.m. and with a winding cost as low as ¼¢ per lb. The following illustrations show some of the reasons why.

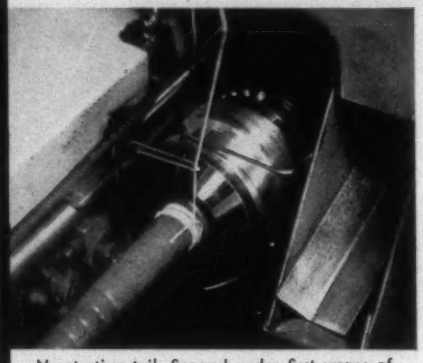
*Manufactured in Westfield, Mass.



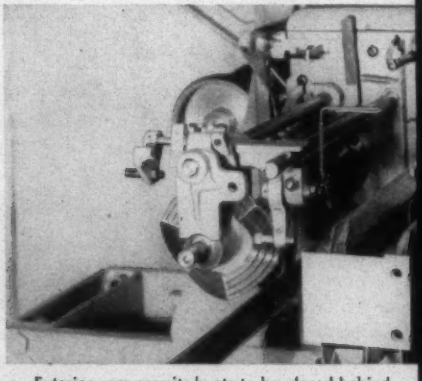
Straight line delivery from poteye to thread guide. No false tension. No undue strain on yarn.



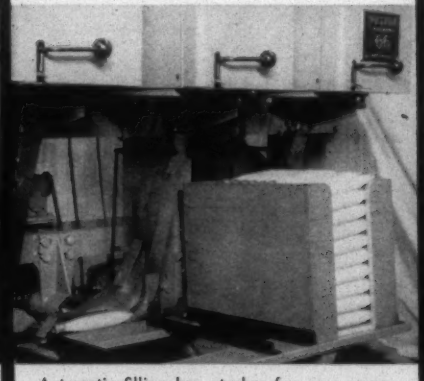
Feelerless build. Automatic donning and doffing of bobbins.



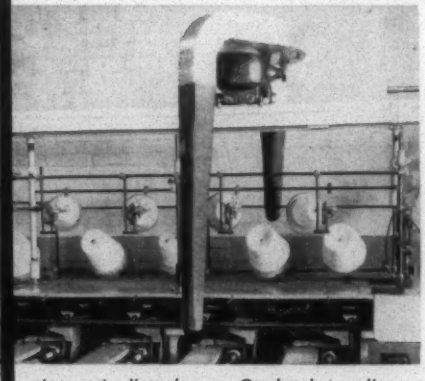
No starting tail. Secured under first wraps of bunch. Trapped alongside driver during transfer cycle.



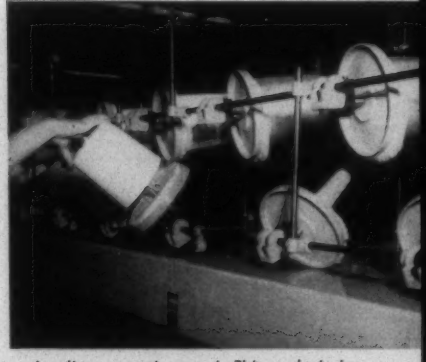
Exterior cam permits knots to be placed behind traverse and on outside of bobbin.



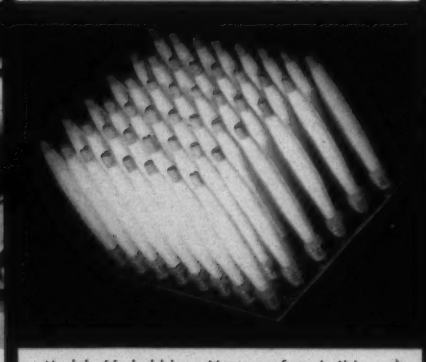
Automatic filling box stacker for spun yarns. (Automatic pinboarding for filament yarns).



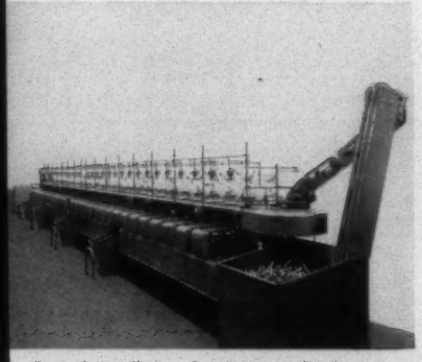
Automatic lint cleaner. Overhead traveling blower type.



Loading magazine creel. This and piecing up broken ends are only manual operations.



Model 66 bobbins. Note perfect build and uniformity. No starting tails.



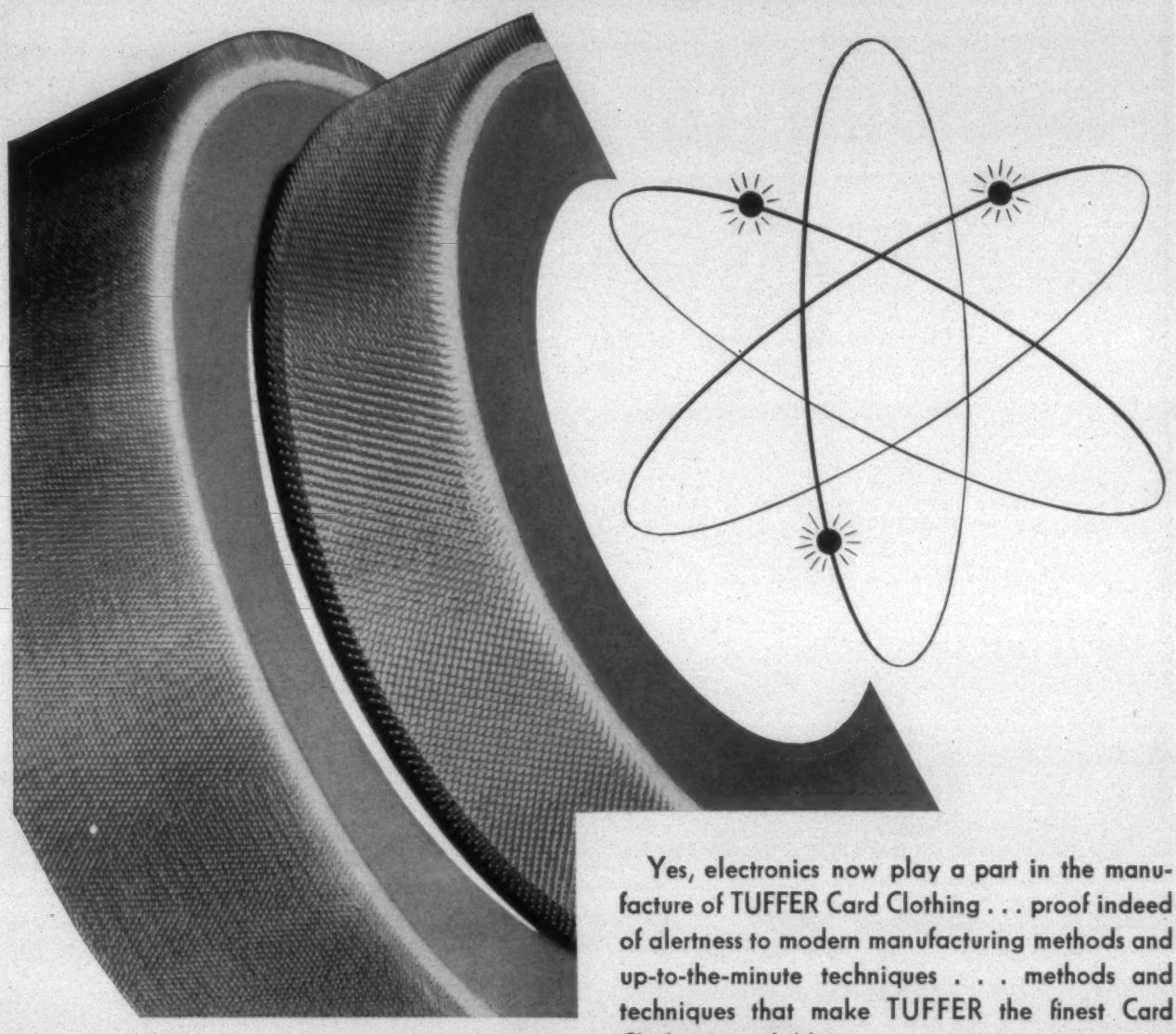
Typical installation showing centralized empty bobbin hopper with capacity of 2000 bobbins.

Want to know more?
...Send for new Bulletin M4-A.
No obligations.

FOSTER MACHINE COMPANY
Westfield, Mass., U. S. A.

Southern Office — Johnston Bldg., Charlotte, N. C. · *Canadian Representative* — Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont.

and now *Electronics* . . .



Yes, electronics now play a part in the manufacture of TUFFER Card Clothing . . . proof indeed of alertness to modern manufacturing methods and up-to-the-minute techniques . . . methods and techniques that make TUFFER the finest Card Clothing available.

Merely keeping abreast of the times, however, is not our only purpose—our constant intensive research is your assurance for even better Card Clothing for TOMORROW.

Howard Bros. forward-looking and progressive manufacturing policy, plus a vital 90 years of experience in the making of Card Clothing, is your guarantee that you are using the very best when you use TUFFER.

C-3

Manufacturers of Card Clothing for 90 years

1866-1956

Tuffer

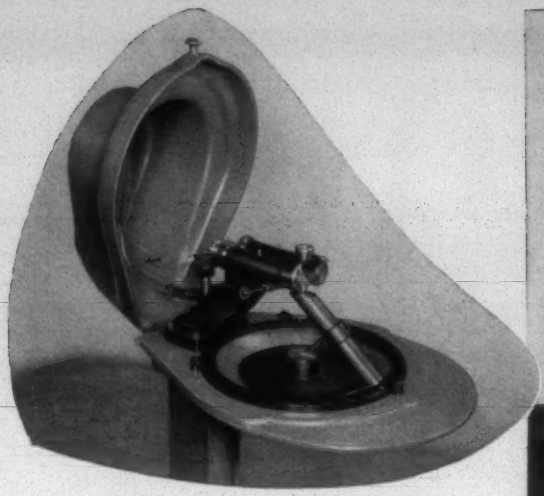
HOWARD BROS.

WORCESTER 8, MASSACHUSETTS

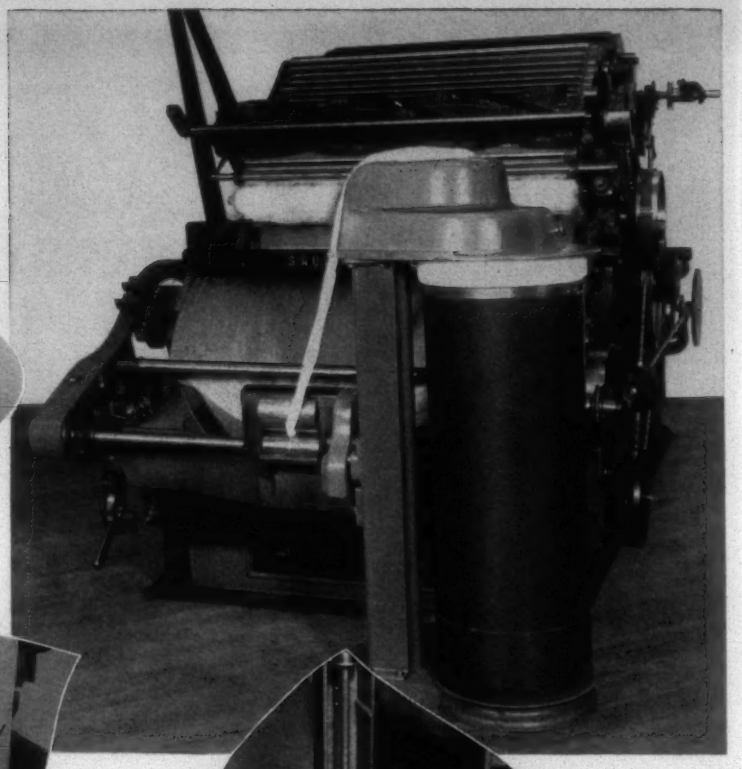
Southern Plants: Atlanta, Ga., and Gastonia, N. C.

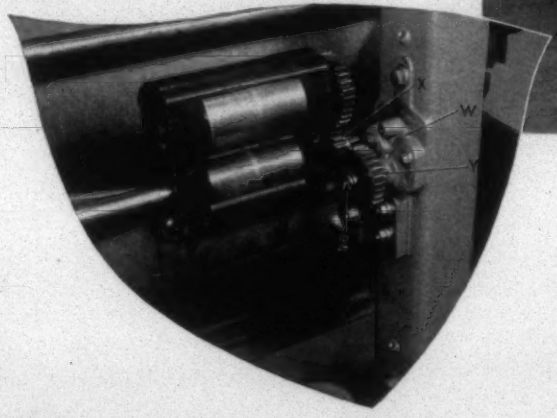
Direct Representation in Canada

TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing and Brushes • Top Flats re-covered and extra sets loaned at all Plants • Lickerins rewired at Southern Plants • Hand Stripping Cards

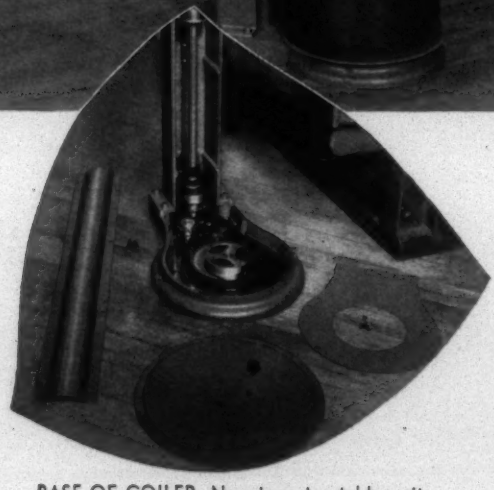


COILER HEAD. Note the clean, simple construction, and streamlined cover. The Calender rolls are mounted on anti-friction bearings.





COILER DRIVE is located close to calender rolls. X is driving gear; Y is driven gear mounted on rugged cannon shaft Z, which is carried in an adjustable bearing W. Shear pin is placed in hub of gear Y — if more than normal pressure develops, pin shears off and prevent damage to gearing.



BASE OF COILER. New type turntable unit makes doffing of large heavy cans much easier because a raised portion engages inside of can rim rather than old method of fitting can inside flange.

SACO-LOWELL 14" TO 18" COILERS

The introduction of large package Coilers, resulting in more sliver yardage per can, has greatly increased productivity per man hour. The "overcenter" lay used by these New Coilers produces a much more uniform pattern in the bottom of the can, thereby preventing sliver tangling which often occurs when a "butting" lay is used. Also, the "overcenter" lay eliminates hard cores, which tend to make stock pyramid in the center of the can.

REDUCE
— LABOR COSTS AS MUCH AS 30% *
— "PIECING UP" AT DRAWING UP TO 50% *
— RE-WORKABLE SLIVER WASTE OVER 50% *

* Based on actual mill tests.

SACO-LOWELL SHOPS

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N.C. Sales Offices: CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA

as you like 'em!

WESTVACO®

CAUSTIC SODA

Liquid 73%
Liquid 50%, Regular and Low — Chloride Grades
Flake, Solid and Ground, 76% Na_2O

CAUSTIC POTASH

45 and 50% Liquid — Flake and Solid

SODA ASH

Refined, Light and Dense
Natural, Light and Dense

Westvaco ships caustic soda, caustic potash and soda ash in 18 grades and forms, packaged as you want them, from a bag to a barge.

Ships them promptly, too, from points ideally located for fast truck, rail or waterway delivery.

And this exceptional service is backed by an unusual quality-control program. Westvaco alkalis are always delivered up to specifications . . . specifications geared to the users' needs and rigidly maintained.

So you get the product you want, packaged as you want it, shipped the way you want it, when you want it, and always up to expectations. No matter how you look at it, Westvaco alkalis are "alkalis as you like 'em!"

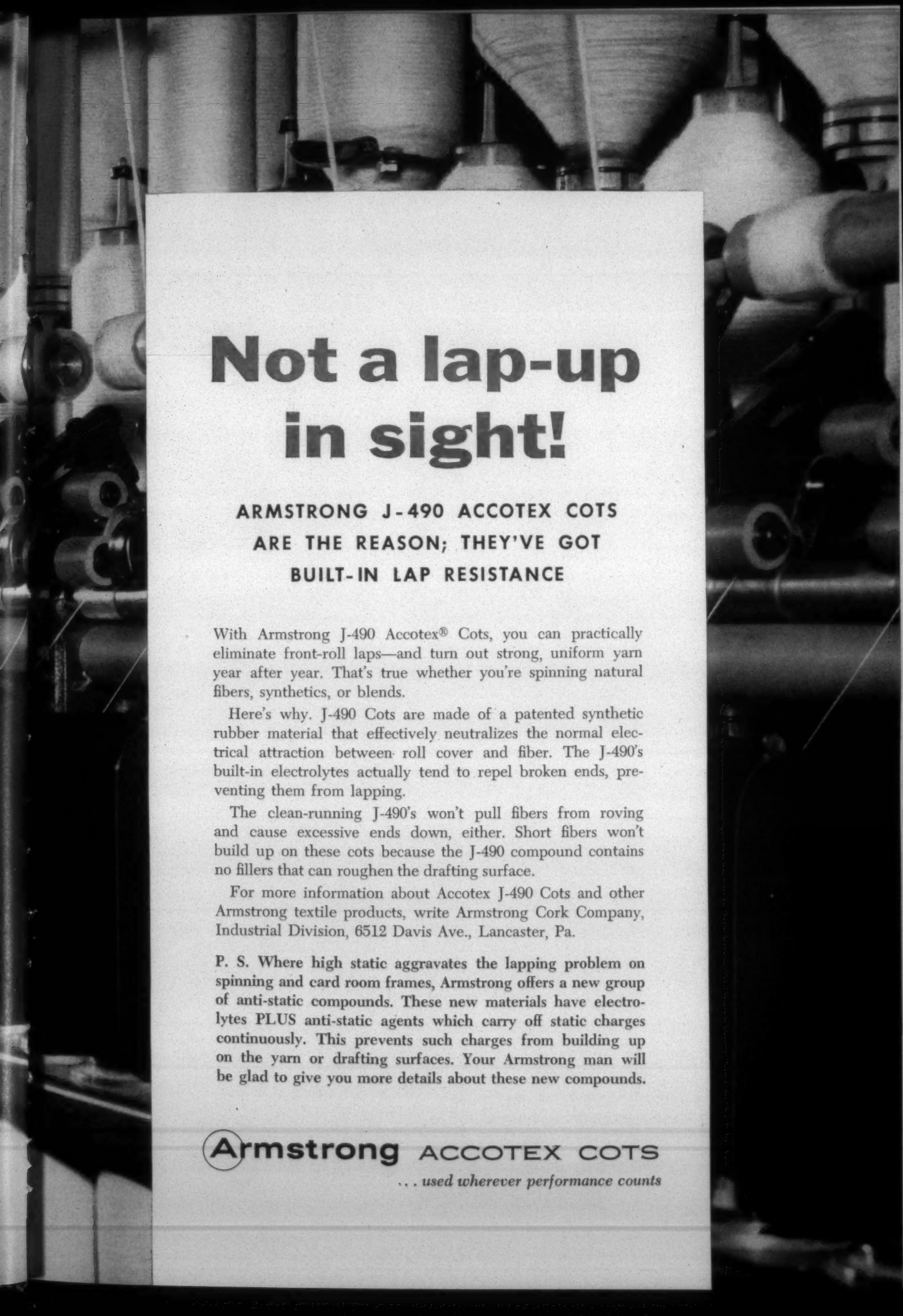
Westvaco CHEMICALS

Westvaco Chlor-Alkali Division
FOOD MACHINERY AND CHEMICAL CORPORATION

161 E. 42nd St., New York 17 • So. Charleston, W. Va. Charlotte, N.C. Chicago Denver Philadelphia St. Louis

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

FMC CHEMICALS INCLUDE: BECCO *Perozygen Chemicals* • WESTVACO *Alkalis, Chlorinated Chemicals and Carbon Bisulfide* • NIAGARA *Insecticides, Fungicides and Industrial Sulphur* • OHIO-APEX *Plasticizers and Chemicals* FAIRFIELD *Pesticide Compounds and Organic Chemicals* • WESTVACO *Phosphates, Barium and Magnesium Chemicals*



Not a lap-up in sight!

ARMSTRONG J-490 ACCOTEX COTS ARE THE REASON; THEY'VE GOT BUILT-IN LAP RESISTANCE

With Armstrong J-490 Accotex® Cots, you can practically eliminate front-roll laps—and turn out strong, uniform yarn year after year. That's true whether you're spinning natural fibers, synthetics, or blends.

Here's why. J-490 Cots are made of a patented synthetic rubber material that effectively neutralizes the normal electrical attraction between roll cover and fiber. The J-490's built-in electrolytes actually tend to repel broken ends, preventing them from lapping.

The clean-running J-490's won't pull fibers from roving and cause excessive ends down, either. Short fibers won't build up on these cots because the J-490 compound contains no fillers that can roughen the drafting surface.

For more information about Accotex J-490 Cots and other Armstrong textile products, write Armstrong Cork Company, Industrial Division, 6512 Davis Ave., Lancaster, Pa.

P. S. Where high static aggravates the lapping problem on spinning and card room frames, Armstrong offers a new group of anti-static compounds. These new materials have electrolytes PLUS anti-static agents which carry off static charges continuously. This prevents such charges from building up on the yarn or drafting surfaces. Your Armstrong man will be glad to give you more details about these new compounds.

Armstrong ACCOTEX COTS

. . . used wherever performance counts

It's as simple as this... WHITIN

In top-flight quality mills, high production mills and specialty mills, on every fiber, Whitin Roving frames are acknowledged leaders.

This distinct mill preference is based on a solid record of unbeatable production, evenness of roving produced, the flexibility and performance of Whitin drafting systems. Advanced in design and having every desirable mechanical improvement, these frames have set new high standards of operation, with lowest costs per pound for direct labor, maintenance and total cost.

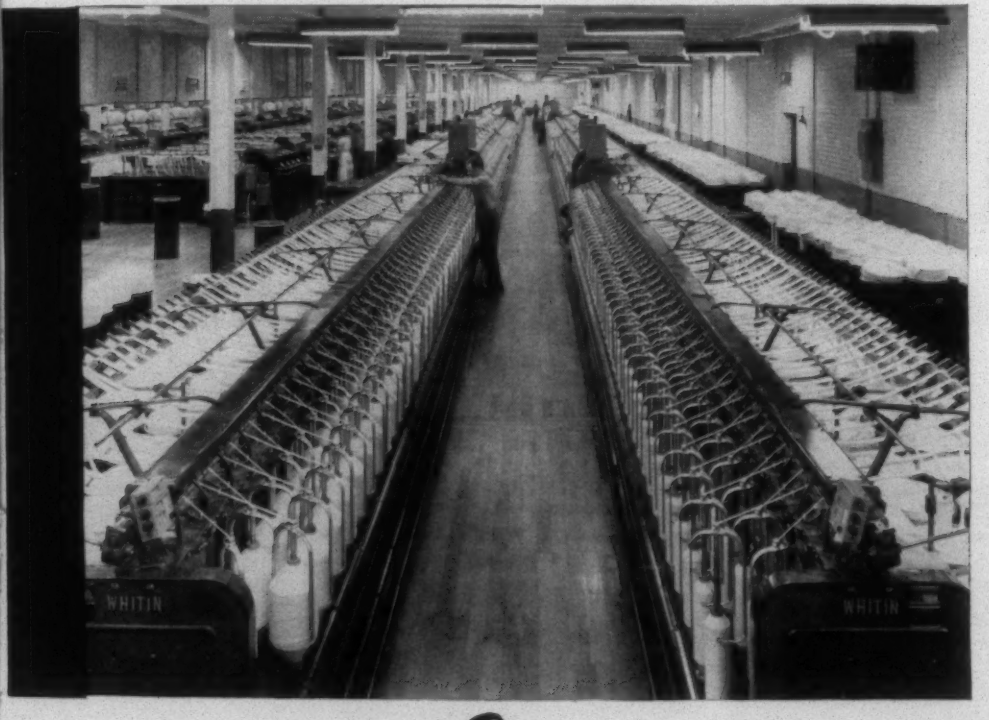
ROVING FRAMES

give you Better Roving at Lower Cost

The data below is an example of the production and cost advantages you can secure with Whitin Roving frames. The figures are based on actual operating conditions in a mill producing 162,000 lbs. per 144 hr. week of 80x80, 39" 4.00 high quality print cloth with 31's warp and 41's filling.

	For 31's Warp	For 41's Filling
Hank Roving	1.00	1.30
Spindle R. P. M.	725	725
Front Roll Speed	178	139
T. Multiplier	1.15	1.30
% Efficiency	88	88
Lbs./Spdle./Hr.	1.10	.660
Lbs./Spdle./144 Hrs.	158.4	95.0
Size of Bobbin	12"x6½"	12"x6½"

	For 31's Warp	For 41's Filling
Wt./Roving/Bobbin	54 oz.	54 oz.
Spindles per frame	96	96
Spindles Required	1279	
Spindles, 14 frames used	1344	
Fr./Operator	5-5-4	
Cost per lb. for direct labor . . . $.00391		



Photos courtesy of
DUNDEE MILLS, Incorporated
Griffin, Georgia

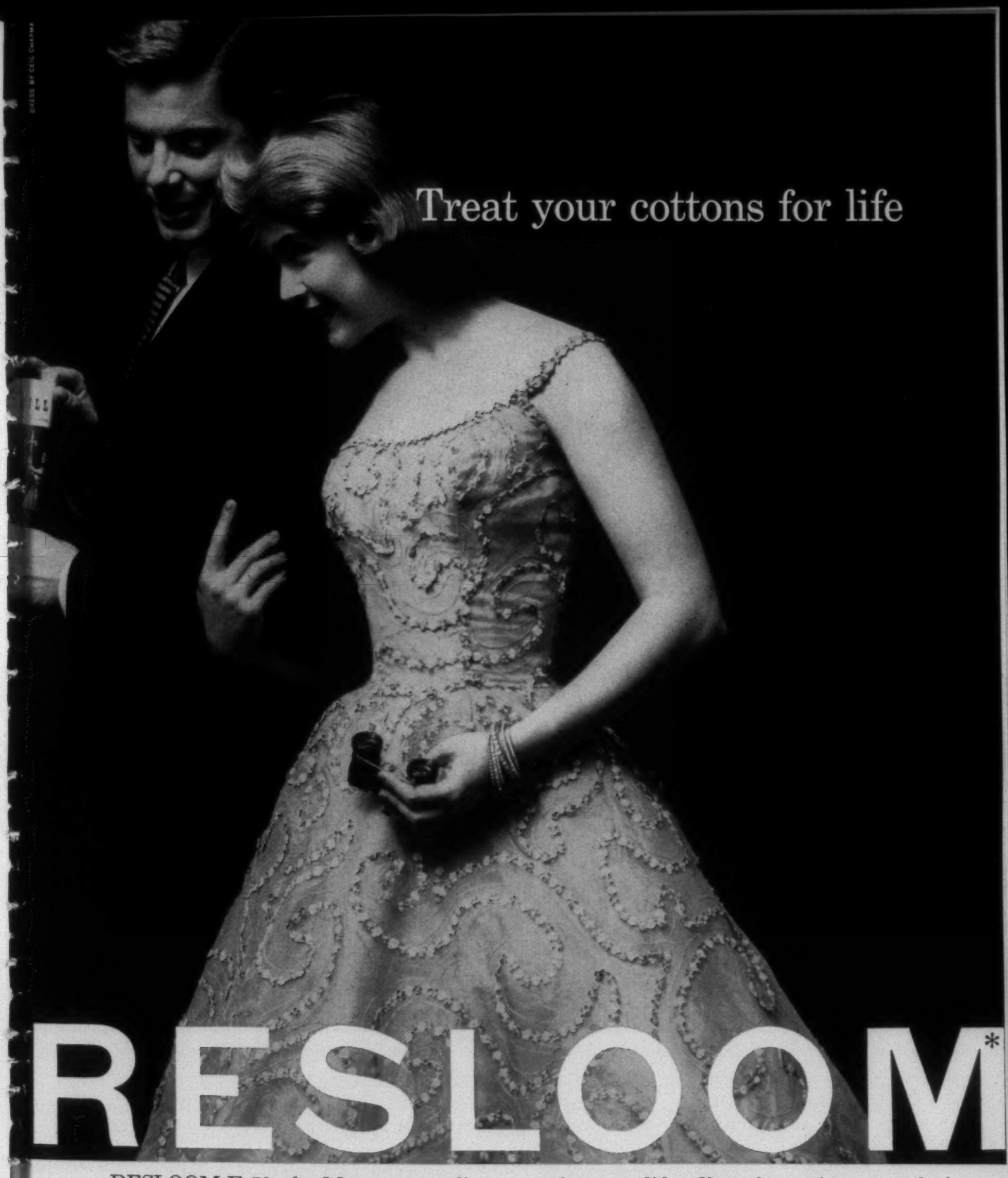
WHITIN MACHINE WORKS
FOR 125 YEARS
SERVICE TO THE TEXTILE INDUSTRY
1831 - 1956

For complete information, ask your Whitin representative — or write direct to us.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



RESLOOM E-50, the Monsanto cyclic urea resin . . . modifies fibers for optimum results!

MONSANTO

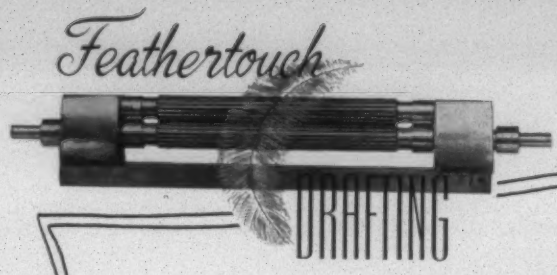
*RESLOOM: REG. U.S. PAT. OFF.

Four words summarize the remarkable effectiveness of Resloom E-50 when used to finish cottons: *It doesn't wash out!*

After repeated launderings, cottons treated with this Monsanto cyclic urea formaldehyde resin require little or no ironing. They also retain their crush resistance and dimensional stability.

The reason for the outstanding durability of Resloom E-50 is simple. Instead of reacting with itself, it is designed to react exclusively with the fabric. All active ingredients diffuse into the interior of cellulosic fibers and actually modify fiber characteristics.

Call in Monsanto for expert counsel on how to "treat your cottons for life." In addition to Resloom E-50, Monsanto also supplies melamine finishing resins, tradenamed Resloom HP and M-75, as well as Catalyst AC for stepping up curing efficiency. Write on your letterhead for technical bulletin and experimental samples. Monsanto Chemical Company, Plastics Division, Room 1024, Springfield 2, Mass.



A Comparison of { Ideal Metallic Top Rolls vs. Cushion Top Rolls

Cushion top rolls came into general use because of the drawbacks inherent in old style metallic rolls. When Ideal perfected its advanced design of hardened and mirror-ground all-metallic drawing it overcame all defects — not only of old style metallic rolls but also of cushion rolls. The comparisons below show why Ideal Metallic Rolls today produce the finest quality drawing sliver for any count yarn.

Durability

Cushion top rolls need frequent buffing to correct uneven wear. They start deteriorating the day they are installed and sliver quality goes down — down — down until they are re-buffed.

Ideal Metallic Rolls which have been in constant service for over seven years show no measurable wear — hence no reduction in sliver quality at any time.

Weighting

At today's high speeds, cushion top rolls need weighting up to 150 lbs. This creates excessive friction, heat, and power load.

Ideal Metallic Rolls need 36 lbs. or less even at 450 feet per minute. Ideal roll design practically eliminates friction and the larger surface area of the rolls dissipates heat quickly.

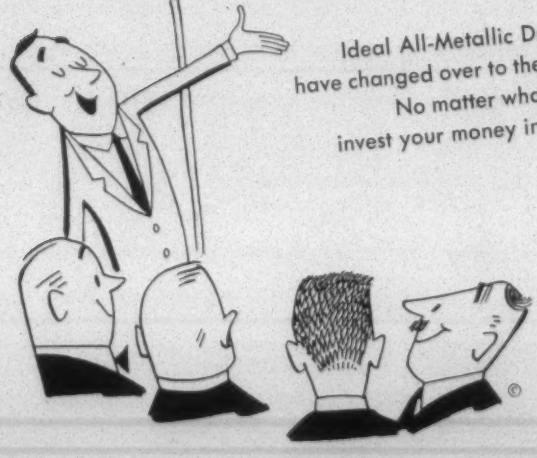
Lap Ups

Speed+pressure+heat+static tends to accumulate lint on cushion rolls. In a carefully controlled comparison, one mill had 93 lap ups a week on cushion rolls on the latest type drawing equipment against one lap up per week on Ideal.

Linted Bottom Rolls

When cushion rolls are used at speeds over 200 feet per minute there is a tendency for lint to collect on the metallic bottom roll and form slick surfaces. This is usually not detected until it shows up in poor drafting on the slubber or in subsequent processes.

Ideal Metallic Rolls "Purr Like a Kitten" at speeds of 450 feet per minute without causing linting up on bottom rolls.



Ideal All-Metallic Drawing Rolls have proven so superior that several mills have changed over to them, to replace their latest types of cushion top roll equipment. No matter what you spin, it will pay you to make careful comparisons before you invest your money in any drawing equipment.

Patent Nos. 2,610,363; 2,490,544; 2,412,357. Other patents pending.

Ideal Industries, Inc.
Bessemer City, N. C.

the customer knows about softeners

Until she tries this garment on, she won't know how it fits . . . until she washes it, she won't know whether it will fade or shrink . . . but the minute she *feels* it, she detects immediately whether it has that soft, lofty hand she is looking for. The best way to avoid disappointing her is to insist that Hart softeners be used in your finishing processes.

SYNTHO-SOFTENERS — Non-yellowing substantive softeners for cellulosic and synthetic fibers. Does an excellent job with resin finishes.

SORBITEX — Anionic, completely non-yellowing softener for cotton, woven and knit goods, and cotton napping.

CATYLEX — Cationic, substantive softener for synthetics.

FINISH WS — Nonionic softener and lubricant, especially recommended for napping and scrooping of nylon.

Technical bulletins and complete information will be gladly sent on request.

the Hart Products Corporation

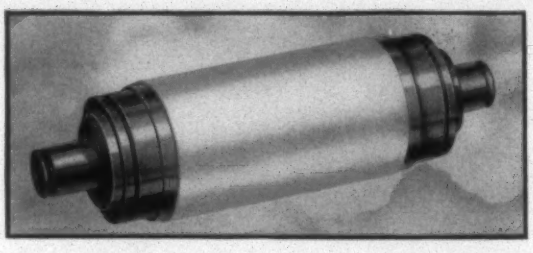
1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J.

Hart Products Company of Canada, Ltd., Guelph, Ontario

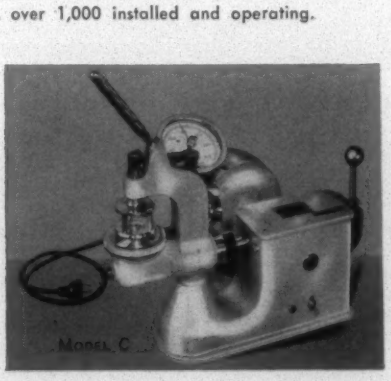
RECOGNIZED THE WORLD OVER

Calender Rolls . . . Schreiner, Chasing, Rolling, Silk Finishing, and Embossing Calenders . . . Rubber Thread Covering Machines . . . Seam and Slub Detectors . . . Cloth Pilers . . . Special Drying Machines . . . Mangles . . . Padders . . . Squeezers . . . Automatic Winders . . . Dye Jigs . . . Hydraulic Power Units . . . Mullen Testers.



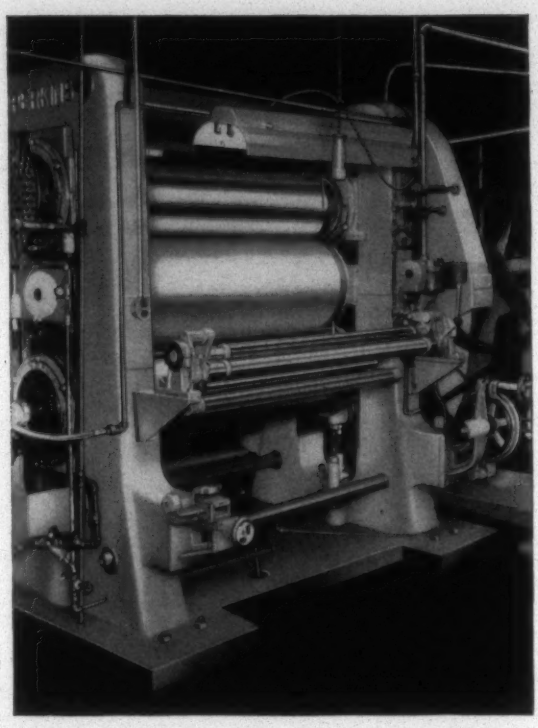
When you specify Perkins Rolls, you enlist in your service more than the product of good equipment . . . you receive a plus factor, the outstanding ability of men whose skill and ingenuity has made Perkins world leader in the roll industry.

Perkins Bin Pilers are supplied with one, two, three or four traveling pot-eyes, and in widths up to 120". A real labor-saving unit . . . over 1,000 installed and operating.

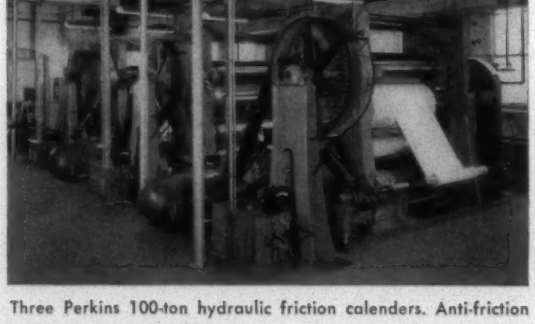


PERKINS MULLEN TESTER

Mullen Testers are absolutely accurate, uniform and positive for ascertaining exact bursting strength of textiles.



Perkins Calenders, individually designed and custom-made, have been long known for their high factor of safety, simplicity of design, long record of service. The three-roll 100-ton hydraulic rolling calender shown is equipped with the famous Perkins Seam and Slub Detector. Perkins Calenders are built to meet definitely the individual requirements of finishers of textiles.



Three Perkins 100-ton hydraulic friction calenders. Anti-friction bearings throughout, nitrogen loaded accumulators, variable speed V-belt drives, friction chain drives, friction ratio 3:1, friction let-offs, slip belt wind-ups.

B. F. PERKINS & SON, INC.

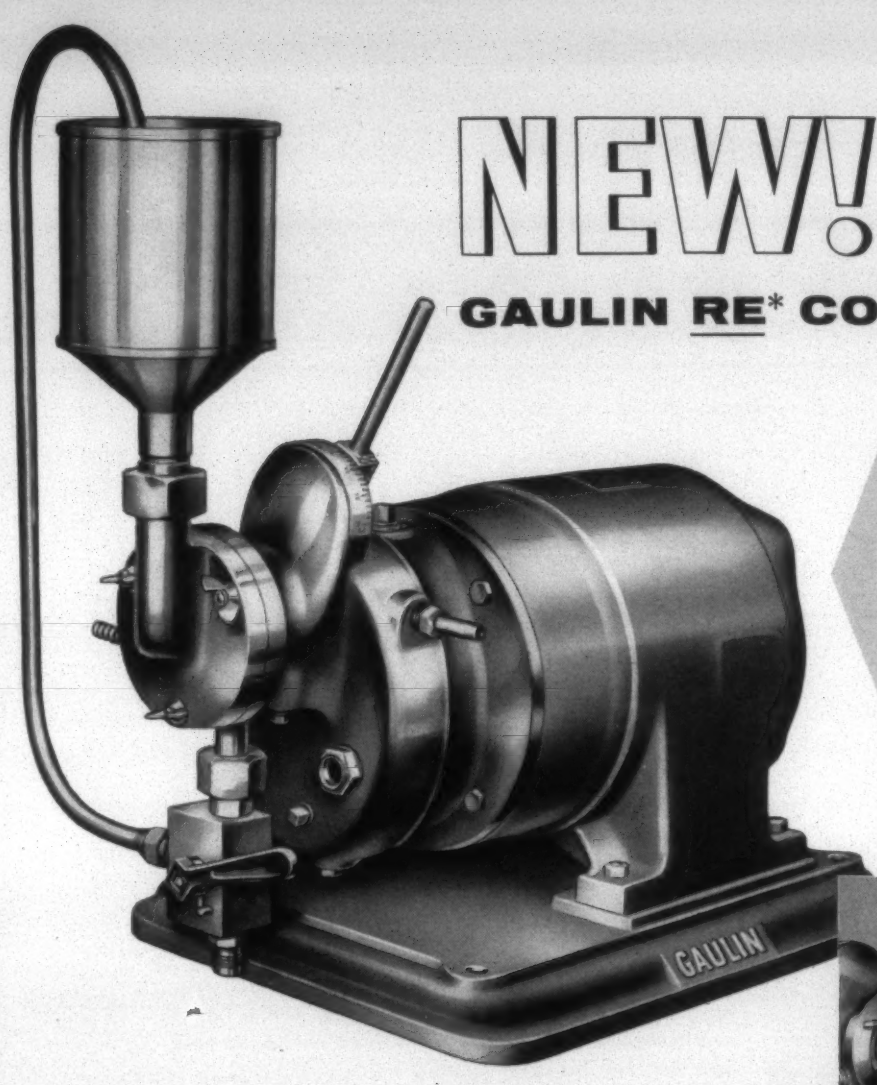
Textile Finishing Machinery

HOLYOKE • MASSACHUSETTS

Southern Sales Office • 1609 Liberty Life Bldg. • Charlotte, North Carolina

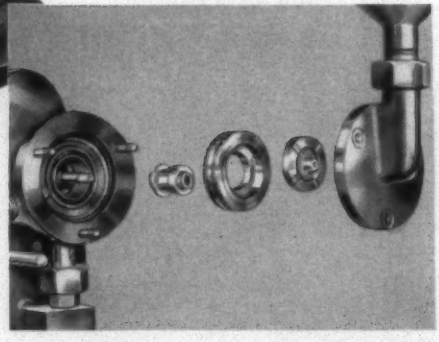
NEW!

GAULIN RE* COLLOID MILL

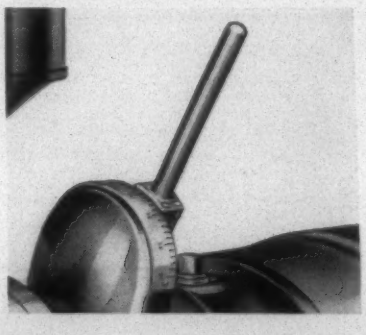


This is the Model 2A. It is shown with accessory equipment — stainless steel 3-way valve, by-pass tubing and tank — for processing quantities as small as 8 oz. Extremely useful for laboratory and research work, it is also designed for production work within its capacity range. Mill body is water jacketed for either heating or cooling.

The Special PLUS Features of the Gaulin RE*



Exclusive! Removable rotor, stator and shaft seal can be disassembled without tools. Shaft leakage is eliminated — There is positive sealing even when processing volatile organic liquids.



Special micrometer adjustment — from —001 to .040 — accurately positions the gap opening between rotor and stator. Adjustment of opening can be made at any time whether machine is running or not — allowing continuous control of processing operation.

Here's a brand new concept in Colloid Mills — the Gaulin RE* with removable rotor, stator and shaft seal. The horizontal two-stage design gives maximum capacity per horsepower and unusual processing efficiency. Result: The Gaulin RE* Colloid Mill greatly simplifies operation, can be cleaned without tools, has minimum maintenance, positive shaft sealing and greater production per dollar invested.

Special Materials Available

Rotor and stator can be furnished in stainless steel, tungsten carbide, ceramic, alundum and other special materials. Removable feature makes parts interchangeable.

Wide Range of Capacities

The Gaulin RE* has a capacity range from 0-2600 gph. Model 2A: 0-310 gph; Model 4A: 0-1000 gph; and Model 8A: 0-2,600 — all depending on product, specifications and gap setting.

Send for New Bulletin

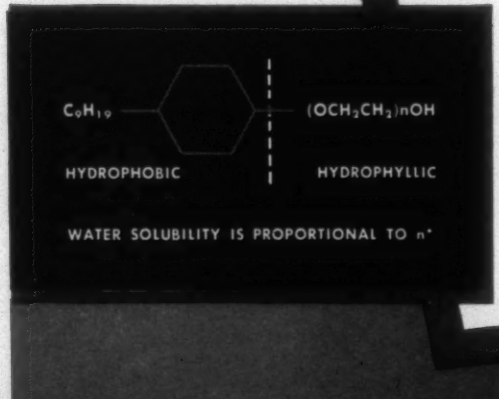
Put this new Colloid Mill to work for you! Complete data on the RE* line is available in a special bulletin. Construction details, capacity data for typical products, and rating curves are included. Ask for C-56 from: The Manton-Gaulin Mfg. Co., Inc., 66 Garden Street, Everett 49, Mass.

Gaulin TRADE MARK

MANTON Gaulin MANUFACTURING CO., INC. EVERETT, MASS.

*patent applied for

USE AN IGEPAL® CO IN YOUR PROCESS OR PRODUCT



The 8 products that comprise the Igepal CO series of non-ionic surfactants, while chemically alike, are different in ethylene oxide content, solubility and performance characteristics. They are specifically designed and performance tested for use in technical processes and consumer products requiring a stable non-ionic surfactant.

The correct hydrophobic-hydrophyllic balance of any surfactant system is essential to optimum performance. The eight products in the Igepal CO series cover the practical range of hydrophobic-hydrophyllic ratios for nonylphenol to ethylene oxide.

Furthermore, being non-ionic, the Igepals are not limited in their use because of undesired reactions with electrolytes and are stable to hydrolysis by acids and alkalis even at elevated temperatures.

To assist you in planning significant experiments in your product or process, the exact composition of the Igepal CO products are described below. Matched sets of samples are available upon request.

PRODUCT	n*	% ETHYLENE OXIDE	CLOUD POINT, 1% SOLUTION
Igepal CO-210	1½	23	Insoluble in water
Igepal CO-430	4	44	Insoluble in water
Igepal CO-530	6	54	Cloudy at 32° F.
Igepal CO-630	9-10	65	126-133° F.
Igepal CO-710	10-11	68	158-165° F.
Igepal CO-730	15	75	203-212° F.
Igepal CO-850	20	80	Clear at 212° F.
Igepal CO-880	30	86	Clear at 212° F.

*Moles of ethylene oxide per mole of nonylphenol.

IGEPAL CO

SURFACTANTS ARE USED IN PRODUCTS OR PROCESSES FOR:

AGRICULTURE

BUILDING

CHEMICAL MANUFACTURING

DETERGENT COMPOUNDING

COSMETICS

DAIRY

LEATHER

METALS

PAPER

PLASTICS

PETROLEUM

TEXTILE

RUBBER

To indicate the wide range of performance characteristics available with Igepal CO surfactants, some typical uses are shown for each product:

IGEPAL CO-210

In high concentrations, serves as defoaming agent in low foaming detergents.
In low concentrations, acts as foam stabilizer for high foaming detergents.
Co-emulsifier in non-ionic surfactant blends.
Defoaming agent in cold water cleaners.
Oil soluble detergent and dispersing agent for use in petroleum oils.

IGEPAL CO-430

Oil soluble emulsifying agent.
Intermediate in the synthesis of high foaming, water soluble sulfate esters.
Oil soluble detergent and dispersing agent for use in petroleum oils.

IGEPAL CO-530

De-inking of paper.
Emulsifier for silicones and agricultural chemicals.
Oil soluble surfactant and emulsifying agent.
Detergent and dispersing agent for use in petroleum oils.

IGEPAL CO-630

Surfactant for use in all phases of textile processing.
Fast rinsing surfactant for cleaning paper machine felts.
Rewetting agent for paper towels and tissues.
Wetting agent in hide soaking and penetrant in fat liquors.
Surfactant for household and industrial cleaning formulations.
Wetting agent for use with mineral acids and corrosion inhibitors.

IGEPAL CO-710

Can be used interchangeably with Igepal CO-630 in most applications, and is particularly effective when higher temperatures are employed.

Highly efficient textile detergent in neutral, acid and alkaline media.
Surfactant in heavy duty liquid detergent formulations and in controlled suds laundry and household formulations.

IGEPAL CO-730

Surfactant for high temperature general detergency, and dispersing.
Emulsifying agent for fats, oils and waxes.
Penetrating and wetting agent in caustic solutions.
Surfactant for use with high concentrations of electrolytes.
Wetting agent for use with mineral acids and corrosion inhibitors.

IGEPAL CO-850

Surfactant for high temperature general detergency and dispersing.
Wetting agent in high concentrations of electrolytes.
Emulsifying agent for fats, oils and waxes.
Stabilizer for synthetic latices.

IGEPAL CO-880

Detergent for high temperature scouring of textiles in pressure equipment.
Stabilizer for synthetic latices.
Surfactant for high temperature general detergency and dispersing.
Emulsifying agent for fats, oils and waxes.
Wetting agent in high concentrations of electrolytes.

MANY APPLICATIONS REQUIRE A MIXTURE OF BOTH AN OIL-SOLUBLE AND WATER-SOLUBLE NON-IONIC SURFACTANT. IN SUCH CASES WE SUGGEST THE USE OF AN IGEPAL HAVING A LOW ETHYLENE OXIDE CONTENT IN COMBINATION WITH ONE HAVING A HIGH ETHYLENE OXIDE CONTENT. THIS WILL GIVE IMPROVED EMULSION STABILITY OVER A WIDER TEMPERATURE RANGE.

For assistance on complex surfactant problems, our technical staff is always available for consultation.
Technical literature on the Igepal CO surfactants will be supplied upon request. Prompt shipments can be made from warehouse stocks maintained at branch offices.

From Research to Reality

ANTARA CHEMICALS

A SALES DIVISION OF

GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

SALES OFFICES: New York • Boston • Providence • Philadelphia • Charlotte • Chattanooga • Chicago
Portland, Ore. • San Francisco • Los Angeles. IN CANADA: Chemical Developments of Canada, Ltd., Montreal

Igepal CO surfactants manufactured by General Aniline & Film Corp. are sold outside the United States under the trademark "Antarox CO".

You get

Totally NEW FABRIC EFFECTS

. . . *plus Shrinkproofing*

with the unique

RIGGS & LOMBARD COMPACTING MACHINE

Now you can command an extraordinary range of special effects — through new compacting methods which enhance the basic structure of goods in unprecedented fashion and *at the same time* shrinkproofs to commercial standards or better.

The R & L compacting machine, particularly designed to practice the new methods, excitingly transforms woven and non-woven fabrics and yarns of many types by mechanical methods — no chemicals! Nubby fabrics look nubbier, patterned weaves are accentuated with depth dimension added . . . and, after these mere beginnings, possibilities for further developments are practically unlimited. Yarns come up much loftier, for use in new and superior yarn-dyed fabrics.

This compacting machine handles a wide range of weights and types from very light to heavy fabrics such as carpeting, and a variety of yarn counts consisting of any fiber or blend. Reasonable in cost, and needing minimum floor space, it can be synchronized for in-line production at relatively high speeds. Replaces sponging process before tailoring on wool, worsted, blended fabrics — also achieves fine felting effects on worsteds and synthetic fabrics.

Riggs & Lombard collaborated in development of this machine for practicing the new compacting methods on woven and non-woven fabrics and yarns of many types. Now we are sole manufacturers and distributors of this machine in these fields, under licenses from the originators, Fabric Research Laboratories, Inc. Write for complete data. Find out how we helped engineer this new machine — and can engineer an installation that will assure *you* of immediately profitable new fabric effects.

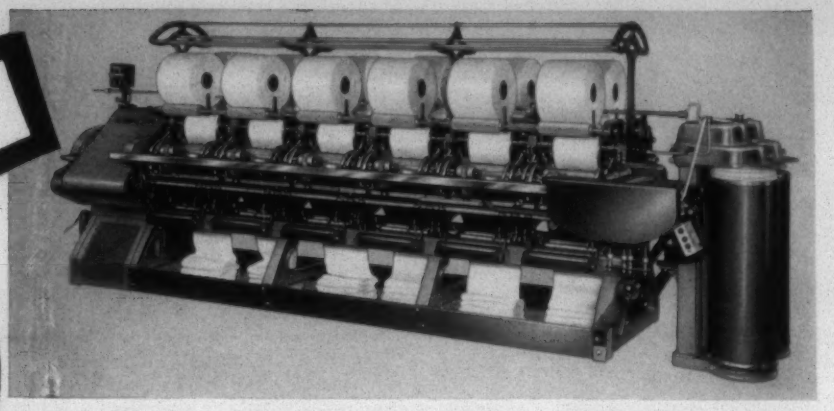
RIGGS & LOMBARD, INC.

Foot of Suffolk Street, Lowell, Mass.

Agents: Paul A. Merriam Company, P. O. Box 86, Providence, R. I., Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill., Larry T. Nelson, 2824 S. W. Montgomery Drive, Portland, Ore., F. W Warrington Co., 611 Johnston Bldg., Charlotte, N. C., A. Harold Zayotti, Jr., P. O. Box 125, Riverton, N. J., H. E. Mott Co., Limited, Brantford, Ontario, Canada.

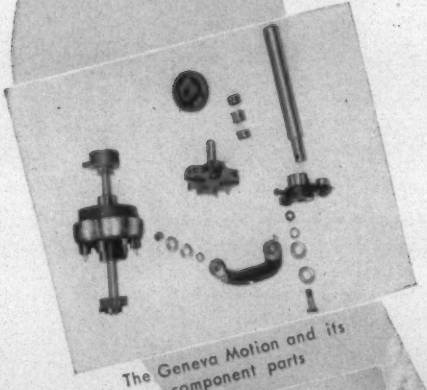
Samples For Free Testing

We can arrange for test run on yarns or fabrics to show shrink-proofing and extraordinary new effects — or to have a representative call to show profit potential in your operation. Just write or phone — no obligation.

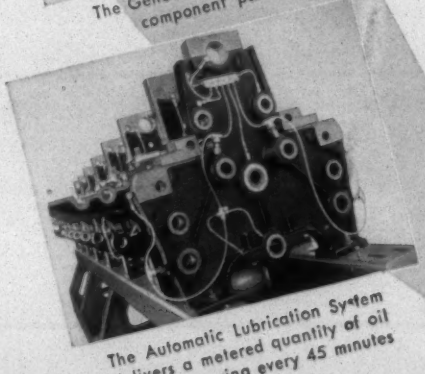


6 REASONS WHY

THE AMERICAN THREAD COMPANY
ONE OF THE FOREMOST PRODUCERS OF QUALITY SEWING THREADS,
HAVE PURCHASED
SACO-LOWELL MODEL 56 COMBERS



The Geneva Motion and its component parts



The Automatic Lubrication System delivers a metered quantity of oil to every bearing every 45 minutes

After exhaustive tests by the Research and Operating Departments of American Thread, the following facts were conclusively proven about Saco-Lowell's Model 56 Comber:

1. Higher production per man-hour was obtained in combing both American and Egyptian cotton.
2. A definite increase in recovery of spinnable fibre, showing a high degree of detaching efficiency.
3. Low variation in sliver weight.
4. Accurate control of noil from comber to comber and head to head.
5. Increased production per square foot of floor space.
6. Fully automatic lubrication assured reduction in maintenance costs.

We are extremely proud that this fine, quality-conscious company has selected the Model 56 Comber for their Clover Plant. They join a distinguished group of mills who have already improved their combing operations by Saco-Lowellizing.

Saco-Lowell Model 56 Combers are producing as much as 55 lbs. per hour with 1 3/16" American cotton. In addition, test after test has shown a detaching efficiency that is 2% better than any other comber. Your mill can enjoy this performance and corresponding increase in profit.

Your nearest Saco-Lowell Sales Office will be glad to send an engineer to discuss your combing operations.

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60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.
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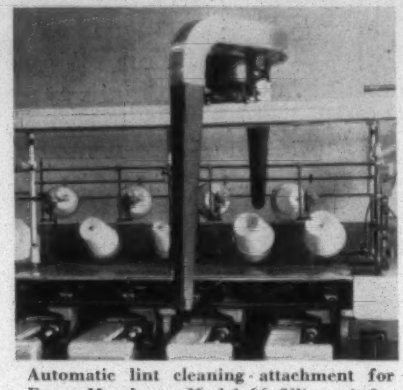
Serving The Textile Industry

Lint Cleaning Attachment



Automatic lint cleaning attachment for Foster-Muschamp Model 66 filling winder (Foster Machine Co.)

An automatic lint cleaning attachment is available on Foster-Muschamp Model 66 filling winder, according to Foster Machine Co. A traveling device, the attachment removes lint, neps and fly that are present during the winding of spun yarns. Offered as optional equipment, the attachment is an additional automatic element in the operation of Model 66. With automatic bobbin replenishing, automatic pinboarding or filling box stacker and magazine creeling of supply, Foster-Muschamp Model 66 is said to assure the lowest winding cost yet achieved. Foster cites as an example that one operator, under conditions which normally prevail in a large mill, can handle 5,000 net pounds of yarn per 8-hour shift at a cost of about ¼ cent per lb. of yarn quilled. (Request Item No. L-1)

Batch Counter

Electro-mechanical batch counter (B. F. Perkins & Son Inc.)

B. F. Perkins & Son Inc. announces the new Perkins batch counter, an electro-mechanical counter for continuous production textile machinery. This counting device was engineered to eliminate the human error ordinarily present in recording batch totals on continuous production automatic winders. It registers the exact total yards in each batch and retains the total until the operator can record it. Each batch is measured from its exact beginning to its exact end. The total production for a day or shift is also registered.

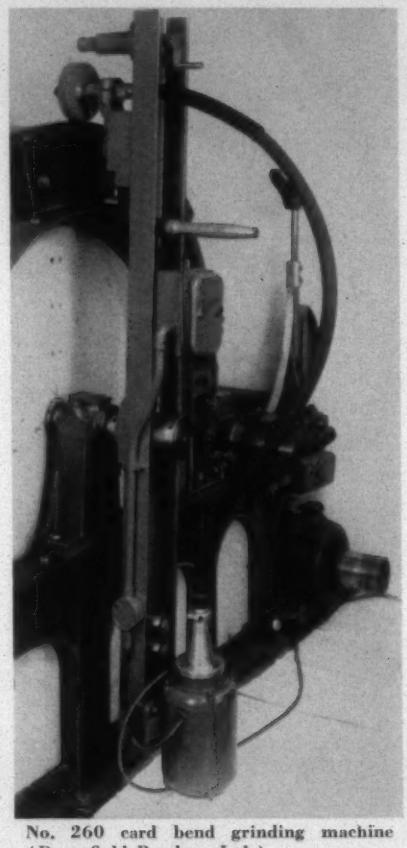
The device consists of 2 units, a counting unit and a measuring unit. The measuring unit is mounted on the machinery in such a way that the wheel is rotated by the material being wound or by a roll being turned by the material. It measures the material and sends an electric impulse to the counting unit for each yard. The counting unit has a panel with 3 6-figure, magnetic counters. Each counter registers a count whenever an electric impulse enters it. Each counter may be manually reset to zero whenever desired in the course of production. The counting unit may be placed anywhere because it is connected to the measuring unit and the winder only by electric wiring. It is usually located at the most convenient place for the winder operator.

The operation of the counting device is said to be very simple. At the beginning of a period of production, all of the counters on the panel are reset to zero. The first batch is then started. It will be noticed that 2 of the 3 counters on the panel are registering. One is the grand total counter and the other is 1 of the 2 batch total counters. When the first batch is complete, a cut-off knife on the winder is operated as usual to end that batch and start the second one. This action operates a switch which causes the first batch counter to stop and the other one to start. Now the total of the first batch is left on the first batch counter. The operator has merely to copy the number onto the tag for the batch. After he has recorded the number, he resets the counter to zero so that it can start to register the third batch from its exact beginning. Thus the 2 batch counters alternately measure the batches positively and accurately.

(Request Item No. L-2)

Card Bend Grinding Machine

Dronsfield Brothers Ltd. is introducing a new card bend grinding machine, designated No. 260, designed to obtain accurate concentric flexible bends. The company points out that to apply newly milled flats to flexible bends which may be uneven and worn is not good maintenance. The use of this new apparatus, it is said, will give accurate concentric flexibles which will not only assist accurate setting and insure that any flat is equally distanced from the wire at all points, but will also insure that the flat ends do not wear unevenly across the machine. The movement of the flats over the flexibles is also assisted owing to the smooth condition of the bend face after grinding, it is pointed out. The apparatus is located on the cylinder shaft, insuring that bends are ground radially accurate with the cylinder surface. A diamond tool for redressing the grinding wheel is supplied. Dronsfield points out that for some makes of cards it is necessary to use a set of flat brackets which have been cut down to allow the grinding wheel to pass. In such cases, this set of flat brackets can then be used for all the cards of that particular make.



No. 260 card bend grinding machine (Dronsfield Brothers Ltd.)

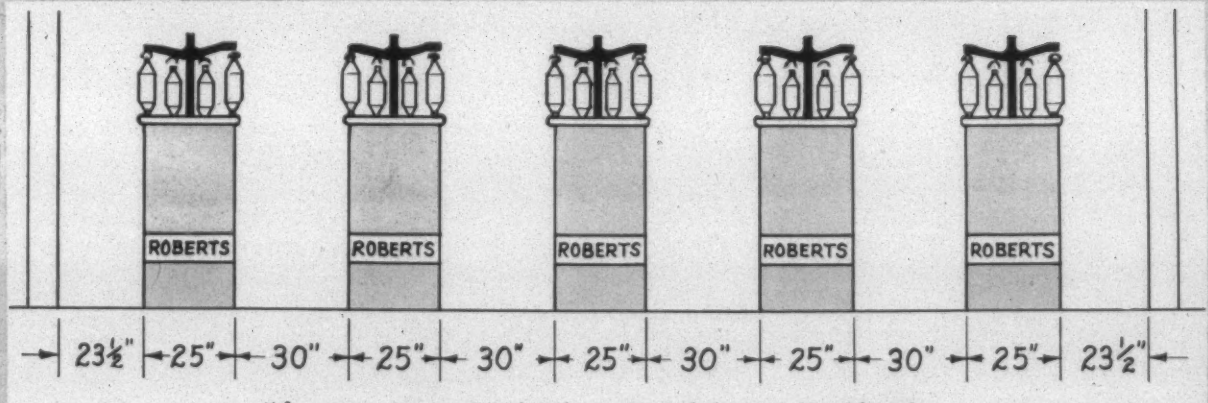
(Request Item No. L-3)

Testing Device For Wool

A unique apparatus for determining the behavior of lightweight wool suitings under high temperatures and high humidities has been announced by Fabric Research Laboratories Inc. The device has been developed as part of a research program sponsored by The Wool Bureau Inc. The basic preconstructed component, constituting essentially the entire temperature-humidity chamber, is an incubator originally constructed for the protection of premature infants. The basic unit's volumetric, temperature and humidity capacities have been modified in order that the necessary textile testing equipment may be contained entirely within the tempera-

NEW! ROBERTS 25 SPINNING FRAME

- **25 inches wide**
- **25% more yarn from same floor space**
- **25% less building for same production**
- **25% saving in building and utility cost**



5 frames in a typical 25 foot bay—25 inch frames, 30 inch aisles

TRIED AND PROVEN. The Roberts 25 Spinning Frame is simple and straightforward, free from radical innovations or gadgets. It embodies all the tried and proven features most wanted in a modern spinning frame giving highest production and lowest maintenance.

ROBERTS DRAFTING. Roberts Double-Apron Drafting produces highest break factors, best yarn evenness and lowest ends down in a range of drafts from 10 to 60, for yarn numbers from 2's to 100's, in cotton, synthetics or blends.

SMALL, MEDIUM OR LARGE PACKAGES. The Roberts 25 Spinning Frame is available in gauges from 3 inches to 4½ inches and can be arranged for direct filling on 8 or 8¾ inch quills or for warp up to a 3 inch ring and 12 inch bobbin.

ALL BALL BEARING HEAD. The all ball bearing head design is outstanding in its simplicity and flexibility. Thirty greased-for-life ball bearings of one size are used and all plain bearings and studs eliminated. All gears in the head are hardened and have one pitch, one width, one bore and one size key, making them completely interchangeable. Two wrench sizes fit all shafts and tightening points. Draft Constant can be varied simply from 400 to 3200 and Lay adjusted for coarse or fine numbers by a simple gear change.

STANDARD FEATURES

Included as standard equipment are Roberts Ball Bearing Spindles, Roberts built-in Suction Cleaning, Roberts AeroCreels and 8 inch Cylinder Drives.

COMPARE ALL 3

For high production, top yarn quality, large packages, low maintenance expense, dependability—and, at the lowest investment per spindle—Roberts Spinning is second to none in America today.

ROBERTS COMPANY

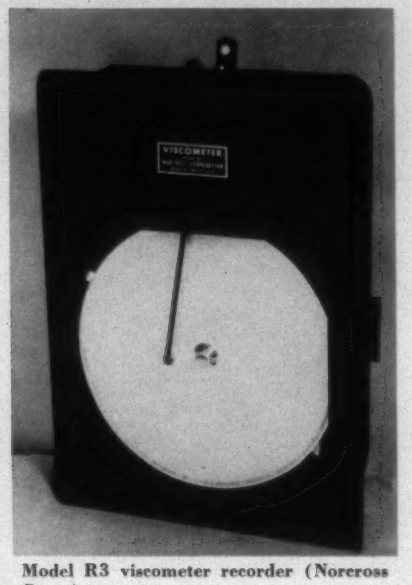
SANFORD, NORTH CAROLINA

ture-humidity controlled chamber. At the present time a maximum temperature of 95° F. and a maximum relative humidity of 95% can be accurately achieved and controlled. The desired temperature and humidity are obtained by vapor pressure created in passing heated air over a tray of salt in solution. (Request Item No. L-4)

Reliance Brakemotor

Reliance Electric & Engineering Co. has introduced a new line of rugged, cast-iron brakemotors that stop instantly and hold heavy loads. Advanced design and totally-protected components are combined to assure long life and trouble-free operation on all types of equipment, Reliance points out. Features include a wide torque range, 1-piece molded friction linings for quick stops, and 1-operation torque setting. In the event of power failure or low voltage, "dead man" operation sets and holds the load until normal operation is restored. The design incorporates a minimum of wearing parts, and any adjustments may be performed easily with ordinary tools by simply removing the brake housing and lifting out the entire operating mechanism. All types of enclosures are available, including those suitable for installations where extremely moist, corrosive or abrasive dust conditions exist. (Request Item No. L-5)

Viscometer Recorders



Model R3 viscometer recorder (Norcross Corp.)

The Norcross Corp. has announced a new line of viscometer recorders called the Model R3 series. Model R30 is for recording only, while Models R31, R32 and R33 contain 1, 2 or 3 adjustable switch points, respectively. The last 3 units will take care of all electric on-off 2-position and 3-position control, operating motors, motor starters or solenoid valves. These models can also be used for alarms and signals of all types. The series also includes Model R3P which provides a 3 to 15-lb. output air pressure which is a function of viscosity. This model can be used with other pneumatic equipment to provide automatic control. (Request Item No. L-6)

Neutrazoic Dyestuffs

Atlantic Neutrazoic dyestuffs, a new range of azoic colors designed for use with the Riegel Flash-Acid Ager, have been announced by the Atlantic Chemical Corp. Principal benefits of the new dyestuffs are said to be increased speed and reduction of seconds, which enable processors to make significant savings while producting prints of high quality.

The new dyestuffs are naphthol-salt cominations stabilized through the use of special compounds which develop almost instantaneously in the Riegel Flash-Acid Ager, Atlantic Chemical points out. The Riegel Flash-Acid Ager is a small, low-cost, compact machine invented and used by the Riegel Textile Corp. (Manufactured by Sims Metal Works of West Point, Ga.) Geared to the take-off end of the print machine dry cans, it operates at all printing speeds.

Atlantic Neutrazoic dyestuffs and the Riegel Flash-Acid Ager together create new printing procedures in which the material is printed, can-dried, Riegel Flash-Acid

FIBER-LOK resin emulsions for textiles

FIBER-LOK emulsions are new vinyls formulated especially for textile applications—from sizing and finishing to nonwoven fabrics.

FIBER-LOK emulsions find use with all types of fibers and fabrics including blends of natural and synthetic. They impart a soft full hand or a crisp stiff finish. They increase tensile strength, abrasion resistance and wash fastness. Some withstand sterilization without discoloring.

FIBER-LOK emulsions are simple to use. Compatible with other sizing and finishing materials. They vary in particle size, emulsifier type and other physical characteristics. Why not let one of National's Resyn Specialists help you decide which can improve your fabrics.

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Aged and swung into boxes at full speed, in one continuous operation. Immediate inspection can be made at the doffing end of the print machine. And washing, which is optional, can be performed without concern for bleeding, it is said, since Atlantic Neutrazoics are faster to washing than ordinary stabilized azoics.

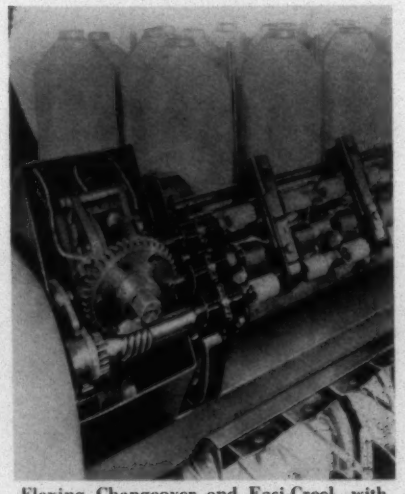
The new dyestuffs are available as a complete range in standard strengths and azoic shades as solutions, double solutions and powders. No formula changes are required from presently used stabilized azoics. Samples and literature can be obtained by using this journal's postage-free reader service request cards. (Request Item No. L-7)

Stiffness Test

Fabric Development Tests announces a new Model-X Drape-Flex stiffness tester for use in measuring the stiffness of extra thick sheet materials such as felt and carpets. The new Model-X tester can be used with materials in any thickness from ⅛″ to 2″ or more and in strip lengths up to 14″. Other improvements are said to include the relocation of reference angle slope supports and leveling screw so that these will not interfere with the measurement of stiff, thick materials requiring the use of the slope extension. The standard Drape-Flex stiffness tester, which conforms to Federal Test Method 5206 and A.S.T.M. Method 1388-55T for measuring the stiffness of fabrics, is limited to use with thin materials up to about ¼″ thick.

(Request Item No. L-8)

Flexing Changeover



Flexing Changeover and Easi-Creel, with cover removed from gear assembly (Product Sales Inc.)

One of the new developments revealed for the first time at the recent Southern Textile Exposition was a new Flexing Changeover and Easi-Creel, designed and engineered by Product Sales Inc. An exclusive feature of the new bottom roll arrangement is said to be the use of individual, specially-connected roll sections provided with the latest type ball bearing adaptation. It allows

the removal of any roll section in any line without disturbing the remainder of the frame. This eliminates the need for a substitute apron application after bottom apron breakage. Realignment of bottom rolls is not necessary because of the flexing roll coupling, it is pointed out.

Although this new engineering principle was only recently announced, the Cleanalign saddle assemblies, complete with 3 lines of top rolls, have been run and tested on several hundred thousand spindles over the past 3 years. This Cleanalign assembly is an integral part of the Flexing Changeover. The combination eliminates all roll oiling, resulting in a substantial saving of labor and a great reduction of maintenance costs, the manufacturer reports. The head-end draft gearing is of unique design and is fully equipped with ball bearings. The draft gear is easily changed, and without concern over bottom roll torque. This is made possible only by the complete usage throughout of ball bearings. The number of teeth in the draft gear represents the mechanical draft.

Spring weighting of a practical design reportedly provides positive weight on each roll and this can be calculated and measured by another Product Sales device known as Sureweight. Bottom and top roll settings, as well as weight distribution adjustments, are easily made, it is said.

The bottom-supported creel, said to be most suited to the Flexing Changeover, can also, with slight modification, be adapted to existing types of spinning. It is possible to place on one deck, at a low level, all roving for a single creel, or to apply a second deck of identical design for a double deck creel. The design, based on motion study, permits easy spinner creeling and valuable savings of time. These individual, non-lubricating bottom supports rotate easily without roving stretch and do not require any special braking adaptors to keep roving from piling up while the frame is stopped. The entire creel is adjustable and is easily installed by mill personnel, instructed by Product Sales service representatives.

Cost of the new Flexing Changeover and Easi-Creel is said to be in line with present prices of cenventional equipment, and savings are estimated to return investment at a rate of 20% to 25% per year. It is adaptable to most of the normal gauge spinning frames now in existence.

A later development, not exhibited at the Greenville Show, is a top and bottom apron support that eliminates the older type cradle units. It is made of heavy-duty unit construction, and incorporates features that make it self-cleaning. An unusual adjusting component enables it to be set quickly to the line of drafting, and maintained at that point, Product Sales points out. Removal of the complete assembly from the top and bottom aprons is quickly accomplished without disassembly of the mechanical parts.

(Request Item No. L-9)

New Chromspun Colors

Eastman Chemical Products Inc., a subsidiary of Eastman Kodak Co., has announced the introduction of 2 new Chromspun colors—Dusk Blue and Dawn Pink. The new colors have been designed for the

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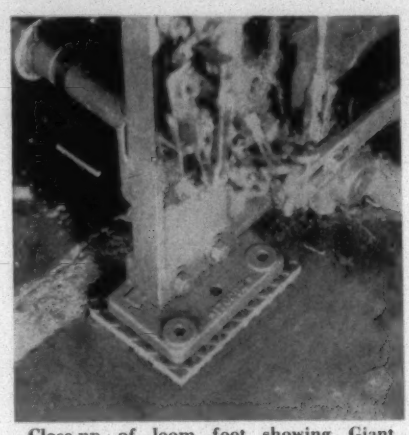
apparel and home furnishings fields based on anticipated fashion color trends and what consumers throughout the country will be requesting. Dawn Pink is described as a fresh, morning medium pink and Dusk Blue a soft-toned blue which captures the last touch of blue sky before sunset. Both colors are subtle and soft yet retain the clarity found in all Chromspun colors, Eastman points out. (Request Item No. L-10)

Loom Mount



Close-up of loom foot showing Giant Grip Air-Loc loom mount used without bolts or cement (Clark, Cutler, McDermott Co.)

Clark, Cutler, McDermott Co. is offering a new loom mount called the Giant Grip Air-Loc. The patented vinyl, sisal and cork construction of these mounts reportedly permit loom movement "within the mount itself," the manufacturer points out, thus drastically reducing movement and vibration previously transmitted to the mill floor. Use of the mounts requires no bolting or cementing of looms to the floor, it is said.

(Request Item No. L-11)

Roving Tester

The Stellite American Corp., representing Paul Litty of France, is now offering the Litty Resistiro-Rex automatic roving tester. The apparatus tests the drafting resistance of rovings, showing whether the twist is correct, disclosing the draft-evenness, and indicating whether the roving is made with correct tension from start to finish.

(Request Item No. L-12)

Sandoz Anti-Static Agents

New anti-static agents called Elosol have been announced by Sandoz Chemical Works Inc. Three types are available, Elosol SG, Elosol V and Elosol UW. Each is said to be suitable for application to synthetic fibers in loose, yarn and piece goods form. Application of the product is simple, and may be carried out during any stage of processing, Sandoz reports.

Elosol SG is a water soluble, neutral, non-ionic, cream-colored paste which imparts a soft hand and a slight scroop to the fiber. The anti-static effect withstands rinsing with boiling water but is not fast to washing. An anhydrous brand, Elosol SG Conc., can be added to mineral or vegetable oil lubricants or softeners for spinning, combing or sizing.

Elosol V is a neutral, non-ionic, clear viscous liquid of brown color, easily soluble in water. It has no noticeable effect on the hand of the goods. The anti-static effect obtained with Elosol V is fast to rinsing with boiling water, but it is not fast to washing. Elosol is suitable for addition to oil in water emulsions.

Elosol UW is a neutral, brownish paste of cationic character. It also acts as a softening agent. The effect obtained with Elosol UW is fast to hot and cold rinsing and also fast to washing as long as soap or synthetic detergents are used at temperatures not exceeding 105° F. It is not fast to washing with soda ash.

Graphs illustrating the relative effects of the three Elosol products are published in Sandoz booklet C-620, entitled *Elosol Anti-Static Agent.* Copies are available from any Sandoz district sales office.

(Request Item No. L-13)

Finer Denier Fortisan-36

Celanese Corp. of America is now offering 2 new finer deniers in its Fortisan-36 rayon yarns—270 denier and 300 denier. Both are 280 filament with .8Z twist and are available on 4-lb. cones. Fortisan-36 is also available in 1600, 800 and 400 deniers.

(Request Item No. L-14)

Dow Silicone Softeners

A new line of silicone textile softeners, designed for use alone or as an ingredient in resin finishing baths, has been introduced by the Dow Corning Corp., producer of Syl-mer and Sylflex silicone finishes. The new softeners, trade-named Syl-Soft, are water dilutable emulsions of reactive silicone fluids. As little as 1 or 2% of the emulsion is needed to give processed fabrics a softer hand, improved tear resistance and sewability, according to Dow Corning chemists. The emulsions are non-ionic and are therefore compatible in standard resin finishing formulae. The inclusion of these softeners in the new "wash-and-wear" finishing mixtures is both desirable and practical, Dow Corning reports. Two silicone softeners are now available, Syl-Soft 10 and Syl-Soft 12. Fiber content and fabric construction determine which to use.

(Request Item No. L-15)

Lint Percenter

Special Instruments Laboratory Inc. (Spinlab) is now offering the Model 168 Lint Percenter, a ratio balance designed especially for rapid determinations of per cent lint in raw cotton. The instrument is direct reading, giving results without the necessity of mathematical calculations. The lint from the sample is placed on special hooks on one side of the balance, and the seed in a removable plastic tray on the

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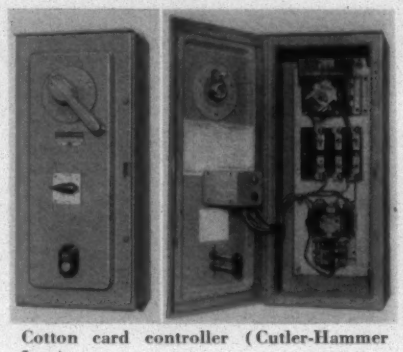
other. A damping mechanism quickly brings the beam into balance allowing a pointer to indicate the percentage directly.

The instrument is designed to accommodate a sample of approximately 50 grams of seed. Two seed trays are furnished with the unit to facilitate the preparation of the sample. A pendulum scale allows automatic leveling of the instrument. The indicating scale is placed under the beam so the operator can operate the instrument from a sitting position. (Request Item No. L-16)

Card Controller



Cotton card controller (Cutler-Hammer Inc.)

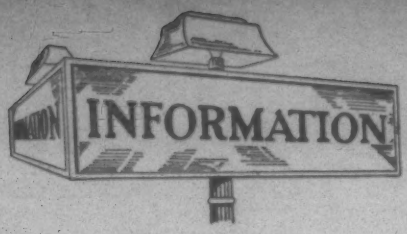
A new controller designed specifically for the control of individually driven cotton cards is announced by Cutler-Hammer Inc. Coupled with overload protection to match the specific characteristics of the special motors used on card drives are long time-lag heater coils for complete motor protection during running or jogging, and for the longer time required to bring forth inertia loads up to speed.

Rated at 5 h.p.-22 ov. and 7½ h.p.-44 ov., the controller's cover mounted, drum-type reversing switch provides reverse operation for grinding cards and is electrically interlocked with a 3-pole magnetic contactor so that accidental reversing is impossible in forward drive. The individual drive system eliminates line shafting, belts and oil-drip; while the controller, available in N.E.M.A. sizes 0 and 1, also offers lower horsepower consumption and reduced maintenance. (Request Item No. L-17)

Eastman 50 Actate Fiber

A new form of acetate fiber, Eastman 50, available in both Estron and Chromspun, have been announced by Eastman Chemical Products Inc., a subsidiary of Eastman Kodak Co. The new Eastman 50 acetate yarn was developed and will be produced by Eastman Chemical's corporate associate, Tennessee Eastman Co.

Eastman 50 yarn reportedly imparts many improved characteristics to fabrics in which they are used. Compared with the conventional form of acetate yarns in fabrics of identical constructions, new Eastman 50 gives: (1) better cover with from 5% to 10% greater bulk; (2) a crisper, firmer hand along with a fuller, smoother feel; (3) equal or better fabric tear strength and

NEED  ?

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abrasion resistance; (4) a higher, more uniform luster with more intense fabric highlights; (5) from 3% to 5% greater insulation; and (6) longer retention of fabric characteristics.

The new Eastman 50 yarn, while improving fabrics in which it is used, makes no change in the general properties and characteristics of either Estron or Chromspun, the manufacturer points out. Tensile strength, elastic recovery, moisture regain, effect of heat, age, sunlight, acids and other chemicals all remain unchanged. It is also said that the new yarn processes better than regular actate on conventional textile equipment, and affords better loom efficiency. Further, dyeing and finishing of fabrics is handled in the same manner as regular forms of acetate.

Market evaluation studies have indicated use of the new Eastman yarn in such fabrics as crepes; taffetas, including crystal-filled taffetas; velvets; luana-type fabrics; satins; linings; lastex fabrics for swimwear and foundation garments; tricots; and drapery fabrics. Eastman 50 yarn is priced the same as conventional Etsron and Chromspun and is delivered in the same put-ups.

(Request Item No. L-18)

Fletcher Doubler-Twister

A new model Master Duplex doubler-twister which reportedly can produce larger yarn packages than any similar machine is now being produced by The Fletcher Works. According to the manufacturer, doubler-twister can handle all yarn sizes and types from the finest silk, nylon and glass to the heaviest filament and spun natural or synthetic yarns.

The ring size of the new doubler-twister has been increased from 5" to 6" in diameter to provide for extra large capacity bobbins in a minimum of floor space. A traverse up to 9" for straight and tapered top bobbins and a 10½" traverse for double tapered packages increases the capacity of the bobbins.

The machine is equipped with spindle whorls up to 2½" in diameter to provide greater belt contact for more accurate twist and permitting production of packages up to 5 lbs. Other new features in the new model are oilless bushings, stainless steel shafts, and endless and lapless spindle belts which can be replaced in 30 minutes. Full-length balloon separators include swing-out features, thus permtting cleaning even while the doubler-twister is in operation. This new development increases production capacity through higher efficiency. The new model also includes totally-enclosed unit controls with large doors permitting complete access to all mechanisms; a motor mounted on ball bearing sliding base; lubricant free, long-wearing nylon bevel gear feed roll drive for silent and clean operation; and custom-built yarn creel with or without tension devices.

(Request Item No. L-19)

For the Mill Bookshelf

Caprolan Nylon Heavy Yarns

The National Aniline Division of Allied Chemical & Dye Corp. has prepared a 4-page technical data bulletin describing Caprolan nylon heavy yarns. The literature points out that the yarns are a completely new class of durable materials engineered to provide nylon yarns that have high impact strength, toughness, long flex life and ready dyeability with virtually any class of dyestuffs. Developed after more than 12 years of original research, the yarns are being produced in deniers ranging from 2,000 to 50,000. One of the significant differences in the production of Caprolan heavy yarns, the data sheet points out, is the system of put-ups devised for efficient, waste-reducing operation. The yarns come on knotless parallel packages and the tubes are non-returnable. (Request Item No. L-20)

Processing 1.0 Denier Orlon Staple On The Cotton System

Du Pont's textile fibers department has prepared a 2-page bulletin (OR-74) on its Orlon acrylic fiber entitled *Processing 1.0 Denier Orlon Acrylic Staple on the Cotton System*. The bulletin provides information on processing 1½" staple to 60/1 c.c. yarns, and settings are given for each process. Picker settings are given for the Saco-Lowell Model 6 picker; carding settings are given for the Whitin Model L flat card; drawing settings for a Whitin 4/4 draw frame for breaker and finisher drawing; roving settings for Whitin equipment; and spinning for both Whitin and Saco-Lowell equipment. The bulletin points out that while the settings are given for specific machines, comparable settings for other types should be satisfactory.

(Request Item No. L-21)

Acme Strapping Machine

Steel strapping and packaging operations can now keep pace with the fastest production lines with the Acme Steel F3 strapping machine, according to a new folder, published by Acme Steel Products Division, Acme Steel Co. The F3 strapping machine, designed specifically for applications where compressible or solid units must be strapped quickly and economically, mechanizes operations that formerly required physical effort, the folder points out. It fits readily into existing conveyor lines, and with push-button control, it moderately compresses, then tensions, seals and cuts 1, 2 or 3 straps simultaneously. Typical applications as well as specifications of the pneumatically-powered and electrically-controlled machines are shown and described.

(Request Item No. L-22)

Engineered Plastics

Engineered Plastics Inc., manufacturer of plastics materials and precision machined parts, is offering a 4-page, illustrated pamphlet describing: (1) the wide range of stock items available for prompt delivery; (2) the firm's technical staff; and (3) production facilities, including special equipment designed and built by E.P.I.

(Request Item No. L-23)

Electrical Controls

The Jordan Co. Inc., manufacturer of control equipment, is offering an 8-page bulletin (No. J-100) covering its electrical remote positioning controls for both push-button and automatic operation. The bulletin features a new shaft-mounted control gearmotor for valves and variable-speed drives to provide remote or automatic flow, speed, proportion and tension control.

(Request Item No. L-24)

Instrument Catalog

Fischer & Porter Co., manufacturer of complete process instrumentation, has published a 32-page catalog describing the company's products which are available for immediate shipment. The new catalog, which includes prices, covers indicating, recording, controlling and transmitting instruments for flow, pressure and density.

(Request Item No. L-25)

Steel Equipment

Equipto, a division of Aurora Equipment Co., is offering a reference manual of steel equipment. The 48-page book analyzes all types of steel shelving, drawers, lockers, work benches and tables, and other storage, store, office, warehouse and shop equipment. (Request Item No. L-26)

Dow Corning Silicones

The new *1957 Reference Guide to Dow Corning Silicones* is now available. Almost 150 commercially available silicone products are described in this year's catalog, including several which were developed within the last year. As in previous annual issues, products are grouped by usage (water-repellents, dielectrics, release agents, etc.), enabling engineers to locate a material by what it *does* as well as by what it *is*. Descriptions are brief and factual, with em-

LESTERSHIRE SPOOL DIVISION HOLDS SALES SEMINAR—The Lestershire Spool Division, National Vulcanized Fibre Co., recently conducted a sales seminar at its Johnson City, N. Y., plant. Representatives of Odell Mill Supply, Greensboro, N. C., and Greenville (S. C.) Textile Supply Co. were special guests at the seminar, which consisted of demonstrations, talks and discussion of problems involved with bobbin design, construction and sales. The guests were also taken on a plant tour and shown how Lestershire bobbins are made from start to finish. Following the tour, a round table discussion brought the seminar to a close.

Representatives of the two companies attending the seminar included *(front row, left to right)* Clyde Hathcock, Homer Jordan, Leon Jones, Don Bigelow, William Brown and Robert McDonough. *(Middle row)* Milton Hutchinson, Weldon Fields, Paul Ahrens, Dallas Neese, Samuel Sinclair, L. J. Phelps, Hugh Graham and Albert Humphrey. *(Back row)* Marion Woods, William Brigham, Joseph Matyas, Eugene Ware, J. G. Beaston, Charles Fahey, A. E. Eastman, D. J. Wible, George Batchelor, Charles Williams, Stanley Klem, R. B. Dorman, T. M. Bailey and Earl Wessel.

"GULFSPIN keeps our spindles spinning clean and free"

*says T. F. Snipes, Overseer of Spinning of this prominent southern mill**

"WE have used Gulfspin for almost three years and have found that our 34,000 spindles stay clean with practically no sticking," says Mr. Snipes. "Also Gulfspin doesn't thicken after long usage."

In addition to the benefits mentioned above, Gulfspin provides effective protection against rust—and it reduces power costs because of its ability to maintain its original viscosity after many months of service.

You'll find that the use of Gulfspin will contribute to smoother spindle operation, fewer ends down, and rock-bottom maintenance and power costs.

Contact a Gulf Sales Engineer and let him demonstrate Gulfspin's superiority on your frames. Consult the telephone directory for the number of your local Gulf office.

Gulf Oil Corporation · Gulf Refining Company
1822 Gulf Building, Pittsburgh 30, Pa.

**Name furnished upon request.*

GULF

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

phasis on charts, tables and graphs directly comparing various silicones with the materials they are displacing.

(Request Item No. L-27)

Controlling Coal & Coke Dust

Wheelabrator Corp. is offering a booklet on the control of dust from coal and coke handling operations. It discusses the use of local exhaust ventilation and cloth-tube-type dust collectors. This method is applicable to such operations as the conveying and preparation of coal for burning in plant furnaces and boilers. Four illustrated case histories are presented. Some diagrams of materials handling systems and how dust control is exercised in them are presented.

(Request Item No. L-28)

Total Protection

Total Protection—a new concept in protected enclosures for industrial a.c. motors advanced by Reliance Electric and Engineering Co.—is graphically described in the new Reliance Bulletin B-2501. Cutaway views of a new totally-protected Reliance motor and its components show how it is designed for applications which formerly required drip-proof or splash-proof motors, yet is guaranteed to operate within a maximum temperature rise of only 40° C.

(Request Item No. L-29)

Reliance Motor Selector

A new 12-page *Reliance Motor Selector*, published by Reliance Electric and Engineering Co., gives full information on how to select a.c. motors for specific applications. Included in the new booklet, Bulletin B-2103-1, are such selection data as speed-frequency relationship, N.E.M.A. design classes, torque characteristics, N.E.M.A. current and torque values, frame selection tables, and dimension charts and mechanical modifications for all frame sizes. Two pages are devoted to a pictorial glossary of motor enclosure terminology.

(Request Item No. L-30)

Water Analysis

Solvay Process Division, Allied Chemical & Dye Corp., has announced a revised, enlarged edition of its technical and engineering service bulletin No. 11—*Water Analysis*. The 100-page bulletin contains separate sections on the analysis of various types of waters. Also included in the bulletin are numerous tables of analytic data, conversion factors and turbidimetric and color standards, and a special section on the preparation of reagents, indicators and standard solutions used in analyses.

(Request Item No. L-31)

Sylvania Light Control

A 4-page brochure depicting new light control through the new directional reflec-

tor fluorescent lamp has been released by Sylvania Electric Products Inc. The brochure provides general information on the new lamp, announced last Spring, especially designed for the commercial and industrial market. The lamp has its own "built-in" reflector that increases the downward brightness by as much as 60% and puts light where it is wanted. The lamp was designed to increase the amount of usable light in high-ceiling installations where bare lamps are used without reflector or where reflectors soil easily. (Request Item No. L-32)

Automatic Pallet Unloader

A new automatic pallet unloader, developed by the Alvey Conveyor Mfg. Co., is illustrated and described in detail in a new engineering bulletin. Called the Alvey De-Palletizer, the machine is designed to receive pallet loads of cases and automatically unload each pallet onto a conveyor line. The cases move away from the load individually, in single file, at a rate of 25 to 30 cases a minute. The incoming line of the De-Palletizer, on which the loaded pallets are deposited, usually by lift truck, may be custom-designed to specific installation requirements. In certain cases this line can be long enough to provide loaded-pallet storage ahead of the de-palletizing operation. The off-bearing conveyor line can also be designed to suit special plant requirements.
(Request Item No. L-33)

Glass Fiber Insulations

L. O. F. Glass Fibers Co. announces the release of a new product brochure describing 3 kinds of flame-blown glass fiber insulations used for thermal and acoustical applications. Charts are included illustrating the acoustical and thermal values of Microlite, Super Fine and Microtex insulating blankets. Also described are a variety of the companies textile yarns.
(Request Item No. L-34)

Acrylic Monomer

Technical notes on dimethylaminoethyl methacrylate, now being supplied in pilot plant quantities by Rohm & Haas Co., are available on request. In addition to listing physical properties, toxicity, presence of an inhibtor, polymerization and quaternization of the monomer, the notes also describe copolymerization of dimethylaminoethyl methacrylate with methacrylic acid, methacrylate esters, acrylonitrile and other monomers.
(Request Item No. L-35)

Testing Tables And Data

The United States Testing Co. announces publication of the first supplement to its booklet, *Selected Scientific and Engineering Tables and Data,* circulation of which passed the 15,000 mark last month. The supplement, like the original 112-page *Tables and Data* contains a wide variety of technical information, reflecting the many fields of activity of the 76-year-old testing firm. Selection of the charts and tables for

these publications was based on a combination of their utility and the infrequency of their publication in standard references. Many of the tables are original, prepared by technical personnel of the testing company. The result is a unique compilation of technological information.

(Request Item No. L-36)

Dust Control

Dust Control for Industry is the title of a new 16-page illustrated reference bulletin released by the Pangborn Corp. Encompassing the complete range of dust control equipment and accessories, the new bulletin describes the importance of dust control to industry in relation to reduced maintenance costs and employee morale. The bulletin outlines standards of control and efficiency in dust collection, and lists the primary component parts of an engineered dust control system. Drawings and photographs are used in conjunction with condensed descriptive information on the full line of engineered Pangborn dust control equipment including the newest self-cleaning cloth screen collectors, cloth bag and sceen collectors, centrifugal wet collectors and the self-contained Ventrijet wet collectors.

(Request Item No. L-37)

Tertiary-Alkyl Primary Amines

A new 36-page booklet describing 4 tertiary-alkyl primary amines is now available from Rohm & Haas Co. It gives physical and chemical properties, suggested applications and chemical reactions for t-butylamine, Primene 81R and Primene JM-T. Described as distinctly different in both physical and chemical properties from straight primary amines, the t-alkylamines show unusual stability to oxidation and form stable derivatives such as aldimines, carbodiimides and t-alkylcyanamides. Physically, they exhibit fluid character and low viscosity over a fairly wide temperature range, improved solubility in petroleum hydrocarbons and improved color stability. The lower molecular weight t-alkylamines, particularly t-butylamine, are used principally as chemical intermediates. The higher molecular weight t-alkylamines, including t-octylamine, Primene 81R and Primene JM-T, serve as corrosion inhibitors, bactericides, surface-active agents, anti-foaming agents, anti-static agents and as pigment dispersants. (Request Item No. L-38)

Serving The Textile Industry

Foxboro Opens Instrument Service Shop In Atlanta

The opening of an instrument service shop in Atlanta has been announced by The Foxboro Co., Foxboro, Mass. Initially, the new shop will handle emergency repair work on Foxboro instruments and will also serve as a parts and supplies depot, speeding delivery of replacement parts, instrument charts and similar items. Facilities for repair of temperature instruments will be added in the near future.

The new shop, located at 3232 Roswell Rd. near Foxboro's Atlanta branch office, will serve instrument users in Mississippi, Alabama, Georgia, Florida, South Carolina, North Carolina and parts of Tennessee. Its emergency repairs will supplement the work of Foxboro branch office service engineers who make regularly scheduled service agreement calls throughout the seven-state area. Maynard S. Batchelor, who joined Foxboro's Atlanta office in 1953 as a service engineer, has been appointed shop manager.

GRATON & KNIGHT SALES CONVENTION—The Graton & Knight Co. of Worcester, Mass., manufacturer of leather products for the textile industry, recently held its first sales convention in more than 35 years, with salesmen attending from all over the country. Highlights of the meeting included a tour of the plant and addresses by Walter W. Weismann, company president; John Henrikson, sales manager; Jack P. Rattner, vice-president; Ralph S. Tyler, treasurer; and other officials. The salesmen also attended a luncheon at which city and civic officials of Worcester were present. In his address, Mr. Weismann told of company plans for increasing production, installing complete inventory and production control systems, and installing a sales research department for the development of new products.

Johnson Service Co. Opens Branch Office In Savannah

Johnson Service Co., manufacturer of automatic temperature control systems, has established a branch office at Savannah, Ga. The new office brings to 101 the number of direct branch offices which engineer, install and service the company's automatic temperature and air conditioning control systems. James R. Gaylor, formerly of the Atlanta branch, is in charge of the Savannah office.

Pennsalt Acquires Delco Chemicals

The boards of directors of Pennsalt Chemicals, Philadelphia, Pa., and Delco Chemicals Inc., Los Angeles, Calif., have approved a plan under which Pennsalt will acquire Delco, the acquisition being accomplished through an exchange of stock. With a new main plant and office located in Los Angeles and another recently constructed plant at Dallas, Tex., Delco's major activities are the manufacture and sale of organic and inorganic specialty cleaning and paint stripping compounds for general maintenance purposes. Services provided by Pennsalt's plants, warehouses and sales offices throughout the Northwest, central and Eastern areas will facilitate the distribution of Delco's products and insure efficient customer service for these products on a national scale. Following transfer of owner-

ship and control, Delco's operations will become an integral part of the Chemical Specialties Division of Pennsalt.

Griggs Trucking Co. Seeks Merger With Hennis Lines

An application has been filed with the Interstate Commerce Commission by Hennis Freight Lines Inc., Winston-Salem, N. C., for authority to merge Griggs Trucking Co., Ruby, S. C., with Hennis. Also filed concurrently was an application requesting the commission to grant temporary authority for Hennis to control and manage Griggs Trucking Co., and to temporarily lease its operating rights, pending formal action by the commission on the application to merge.

Griggs operates in 10 states along the Eastern Seaboard, and maintains terminals in Atlanta, Ga., Columbia, Greenville, and Ruby, S. C., Charlotte, N. C., Baltimore, Md., Philadelphia, Pa., and North Bergen, N. J. A sales office is maintained in New York City. Griggs is one of the oldest carriers in its area, having been in business for 27 years, with revenues approximating $2.5 to $3 million per year. According to S. H. Mitchell, Hennis president, Otis C. Brigman, president of Griggs, will join the Hennis organization and will be in charge of sales for the Griggs Division of Hennis. All of the other officers and most of the personnel of Griggs are also joining Hennis.

Hennis is well known throughout the Midwest and South, having terminals in Illinois, Indiana, Ohio, Michigan, North Carolina, South Carolina, Virginia, Maryland and Pennsylvania. Its revenues in 1955 were approximately $8 million. For economic reasons, there will be a consolidation of terminals at 5 common points—Philadelphia, Baltimore, Charlotte, Greenville and Canada. Also, 1 of 2 duplicating leased wire communications systems will be eliminated. Other changes will be held to a minimum.

Ross Engineering Buys Andrews & Goodrich Inc.

J. O. Ross Engineering Corp., New York City, manufacturer of industrial air processing systems, has acquired Andrews & Goodrich Inc., Boston, builder of textile drying and ventilating machinery. The purpose of the transaction is to combine the volume of designs, research data and facilities to provide increased development of industrial drying. Under terms of the agreement, Andrews & Goodrich will continue to act as a division of Ross. McSpadden & Scantland of Charlotte, Southern representative for Andrews & Goodrich, will continue in that capacity.

Arthur D. Little Inc. Announces Expansion Plans

Arthur D. Little Inc., Cambridge, Mass., chemical and metallurgical research specialists, has announced plans for expanding its facilities in Cambridge and the construction of new facilities in Concord, Mass. Some 40,000 sq. ft. of floor space will be added to company facilities at Acorn Park in Cambridge, where a new wing containing some 30,000 sq. ft. of floor space has recently

been completed. A new 170-acre tract in Concord will be the site of an affiliate company, Nuclear Metals Inc.

Saco-Lowell Buys Interest In Addressing Machine Firm

Malcolm D. Shaffner, president of Saco-Lowell Shops, Boston, Mass., and Harmon P. Elliott, president, Elliott Addressing Machine Co., Cambridge, Mass., have jointly announced that an arrangement has been made whereby Saco-Lowell Shops will acquire from Mr. Elliott a minority interest in his company with an option to purchase the remainder of the common stock of the company at a future date.

Founded in 1898, Elliott is one of the two largest manufacturers in the world of addressing equipment. Company headquarters and the main manufacturing plant are located in Cambridge, with branch factories at Whitman, Mass., and Atlanta, Ga. Company sales offices are located in 64 leading cities in the U. S. Elliott also has plants in Canada and England, and distributing facilities throughout the world. Saco-Lowell is currently manufacturing two models of addressing machines under subcontract from Elliott.

Uster Corp. To Distribute Custom Tension Recordograph

Custom Scientific Instruments Inc. and Uster Corp. have entered into an agreement whereby Uster will be sole distributor for the Custom Tension Recordograph (formerly known as the high-speed recording tensiometer). The unit was developed by the Summit Research Laboratories of the Celanese Corp. of America, and is now being manufactured by Custom Scientific Instruments.

Flodar Corp. Appoints Two Southern Agents

The Flodar Corp. of Cleveland, Ohio, pipe and hydraulic fittings manufacturer, has announced the appointments of J. A. Postell of Atlanta, Ga., to represent the corporation in the Southeastern states, and the Clem Weston Co. of New Orleans, La., to cover the tri-state area of Mississippi, Louisiana and Arkansas. Postell will maintain a complete warehouse stock in Atlanta, while Weston will warehouse stocks in both New Orleans and Shreveport.

Leather Products Firms Exchange Board Seats

In an unusual move termed a "moral merger," Walter W. Weismann, president of the Graton & Knight Co., Worcester, Mass., has been elected a director of the L. H. Shingle Co. of Camden, N. J., and Frederick W. Baldt, president of Shingle, has been named a member of the Graton & Knight board. Both companies are leading producers of leather products. The election of the presidents of the competing firms to one another's board was brought about to

improve operations through and by the exchange of information between the two companies. Though there is no financial merger involved, the "moral merger" is expected to help augment sales of both companies as well as materially benefit the entire industrial leather field.

Japanese Mchy. Mfr. To Boost Prices 10%

Edward S. Rudnick of New Bedford, Mass., sales representative in this country for the O-M Spinning Machine Mfg. Co. of Osaka, Japan, has announced a general 10% price increase on all O-M spinning and preparatory equipment. The increase will become effective Dec. 31.

Fletcher Opens New Centrifugals Showroom

The Fletcher Works' Centrifugal Division on Nov. 15 held open house for representatives of the textile, chemicals, metals and other industries as it opened its new retail-type showroom for display of a completely new line of centrifugals.

Edward T. Taws, Fletcher's president, and the sales and engineering staff played host to customers who came to the 1,200 square-foot showroom in Philadelphia to operate the centrifugals themselves or have complete pilot tests run on their materials.

Among the centrifugals exhibited were: a 48" Flow Clean stainless steel washer extractor, 40 and 48" Whirlwind extractors, and Twintainer stainless steel 50", 54" and 60" automatic extractors. The new Fletcher line displays the modern trend to stainless steel in centrifugals and advances in automation, which make almost automatic in function all machines that were previously all work and controls and subject to human error.

Geigy Chemical Completes Move To Ardsley, N. Y.

Geigy Chemical Corp. has completed the moving of all its divisions from headquarters in New York City to new, modern offices and laboratories on Saw Mill River Road, Ardsley, N. Y. The gigantic move, which started last July, was climaxed Nov. 26 with the removal of Geigy Dyestuffs Division. The new facilities consist of 3 buildings devoted to executive and administrative offices, application and research laboratories, and a cafeteria. This brings to one location all headquarters operations of the corporation serving the U. S. and Canada.

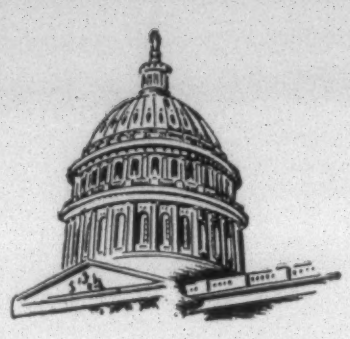
The corporation is a wholly-owned subsidiary of J. R. Geigy S. A., Basle, Switzerland, and will celebrate its 200th anniversary in 1958. Geigy, one of the oldest and most progressive organizations in the dyestuffs business, made its first synthetic dyestuff in 1859. Branches of the Geigy Dyestuffs Division are located in Philadelphia, Charlotte, Chattanooga, Chicago, Los Angeles, Portland, Ore., and Toronto, with the New England territory being served by modern offices, laboratories and warehousing in Newton Upper Falls, Mass. Geigy has a financial interest in the Toms River-Cincinnati Chemical Corp. with plants in Norwood and St. Bernard, Ohio, and Toms River, N. J., where many Geigy dyestuffs are produced. Industrial chemicals are manufactured in wholly-owned plants in Cranston, R. I., and McIntosh, Ala.

Robinson Textile Co. Named Agent For Joy Throwing Co.

Robinson Textile Co. of Atlanta, Ga., has been named sole selling agent for Joy Throwing Co., Hartsville, S. C. Announcement of the appointment was made by Hoke S. Robinson, head of Robinson Textile Co.

American Enka Corp. Opens Chattanooga Sales Office

American Enka Corp. has established a new South Central district sales office at Chattanooga, Tenn. Robert J. Mebane Jr. has been appointed district sales manager with offices located at 871 McCallie Ave. The company has also changed the designation of its Greensboro, N. C., sales office from the Piedmont (or Southern) district to South Atlantic district.



WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

At least in Congress, the Democratic Party is rapidly becoming unstuck at the seams, and splitting into two factions, poles apart. A "liberal" Republican president is caught in the middle; he can precipitate an all-out battle for himself by leaning too far toward either of them. Both factions have legislative programs of which one is the antithesis of the other. The age-old fight for revision of Senate rules, and control of committees in the House, will touch off battles at the start of the session.

Conservative Democrats, which include most members from Southern states, are leaning toward like-minded Republicans. "Liberal" Democrats, which include some Northerners, some of A.D.A. alliance and some "independents," are counseling with similar-minded Republicans. What this means is that there are two coalitions in Congress, neither of which is, as yet, a new party.

The President indicated he will press for early action on civil rights proposals, and call for passage in his State of the Union message. "Liberal" groups will ask that civil rights proposals be taken up ahead of anything else. The bills can command a majority in both the House and the Senate, and prospect of a Senate filibuster hangs over the first weeks in the Senate.

Battle for control of Congress in the 1958 election is already under way, with Northern Democrats trying to reclaim their lost votes. In all Northern cities, as well as Los Angeles, the Negro vote has become decisive. This factor is pushing welfare legislation, as well as civil rights, to the front as prime issues in this session. Negro lobbies are most active.

Democratic leaders are really more concerned over fission in their own ranks than they are in making war on Administration policies. Intent has been to make an all-out attack on every Eisenhower proposal, and again seek enactment of several of the proposals defeated in the last session. If this Congress follows the normal pattern of other years, little important legislation will be passed in 1957, and 1958 will reveal the measure of co-operation, or conflict, in both branches.

New attacks on the seniority system of selecting chairmen of House committees will come at the start of the session. The intent is to displace Southern members who have served on committees longer than any fellow party member, and are chairmen. The system is one of custom rather than of law, but it avoids furious disruptive battles at the start of each new Congress.

Pro-"liberal" groups, which met their worst defeat in an election since 1932, are moving to put through a radical legislative program. This includes bills which have failed to pass in the last two Congresses, including civil rights and school aid with a ban on segregation. Expanded old-age retirement with higher benefits, health insurance, public housing and farm subsidies are high on their legislative list.

Republican leaders in both branches do not concede they were severely defeated in the election, despite failure to get numerical control. They point out that while 79 Democratic seats were won without contest, only five Repub-

lican seats were not contested, and they won more often in contested districts than did the Democrats. In contested districts the Republicans won 197 seats, and the Democrats 154. Outside the South, the Republicans won 17 Senate seats, and the Democrats 12.

Higher unemployment benefits will be urged, and the unions want broader minimum wage coverage, although not asking now for a higher minimum wage rate. Other proposals will seek increased defense contracts for "small" business, tighter clamps on corporate mergers, and more drastic application of anti-trust laws. Aid for depressed areas, and a large program of relief for drought areas in the West and Southwest will be put forward. Proposals for reduced taxes on low incomes will be offered.

Question of extending economic aid in great sums to tribes and colonies in Africa is before a Senate Foreign Relations sub-committee. A report of the sub-committee proposing the aid says the area south of Sahara needs malaria control and other health gains, more food and educational facilities, and "better use of labor resources." The continent is called "strategic" to this country's national defense, and "orientation of its people" along social and political lines "a necessity" facing this country.

Speaker Rayburn sharply rejected a proposal, of A.D.A. origin, to set up an outside advisory committee to work on a legislative program for the House. It came up through the national committee. After consulting with other House party leaders, Mr. Rayburn said they "respectfully decline to serve on such a committee." He said House leaders always welcome outside help in reference to "our program," but would not join in any program that would place them to work with a committee outside of the House.

Population shifts are expected to give several new House seats to Northern states after the next census, with much of the loss in the South. The House is limited to 435 members. Under the present trend, California may gain seven new seats; Florida may gain three seats; and Texas and Michigan two seats each. Among states that may lose one seat each are Alabama, Mississippi, North Carolina, Virginia and Oklahoma. Arkansas may lose two seats.

Union leaders have decided the climate is not favorable this Winter for seeking changes in the Taft-Hartley Law; they fear a much stiffer law. Strike difficulties in the port of New York have brought proposals that under changes in the law the President be given summary power to stop strikes affecting the national welfare without going through formal and lengthy procedure in court and fact-finding. The present method is called too cumbersome.

Unions would resist with every resource any extension of the federal power to seek injunctions in strike difficulties. They insist that emergency injunction cases can be handled quickly now without loss of safeguards of the law. Petitions for injunctions are not obligatory, although no court in 14 cases where emergency orders were sought has refused to grant it.

Another membership drive is being set up by A.F.L.-C.I.O., with the "unorganized textile South" as one of the prime objectives. This is the second time since the union merger that the "textile South" has been an organizing target. Union leaders say they are hampered in the South by right-to-work laws in all but one state, and that most mills are now giving their employees more than the unions can promise them.

Docket of the Supreme Court is heavily weighted with appeals in labor cases at the top of the list with criminal actions and tax cases. Forty-five new labor cases were filed during the Summer. Usually such cases are heard, rather than dismissed, because labor-management relations is a relatively new field in law. The Court appears to feel it is charting new judicial channels and building up a body of precedent in the labor cases.

New Bahnson Collecto-Vac increases production efficiency at Aleo Manufacturing Company

Bahnson Collecto-Vac installed on frames in Spinning Room at Aleo Manufacturing Co., Rockingham, N.C.

New automatic broken-end collection unit

- helps increase spinner efficiency
- improves product quality
- simplifies plant maintenance

Here are important features of the Bahnson Collecto-Vac which make it outstanding for economy and dependable performance:

ANODIZED ALUMINUM FLUTES eliminate flute warpage and minimize static build-up.

HIGH SUCTION EFFICIENCY–Specially engineered main duct distributes maximum pressure throughout system utilizing Bahnson-designed fan for high air handling effectiveness.

ECONOMICAL OPERATING COST–Bahnson designed fan requires less power to maintain even vacuum pressure, and the special construction of the airtight duct and flute connecting tubes makes for more efficient performance.

Left: Double Collecto-Vac collection box serving two frames.

Bahnson COMPANY
WINSTON-SALEM, N. C.

WRITE US TODAY for detailed information on the new Bahnson Collecto-Vac

AIR CONDITIONING • CLEANING • VACUUM COLLECTION

...BUT A SERVICE RECORD WAS BROKEN TOO!

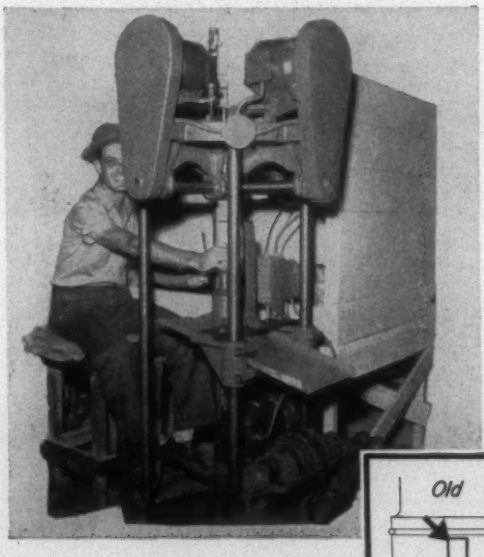
This ABC HAIRON CHECK STRAP gave 9,893 Loom Hours of service on a 32" wide X Model loom runing 196 picks per minute.* It's no wonder they're the finest you can buy!

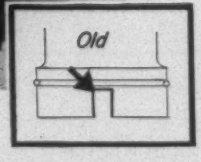
**Name of mill furnished on request.*

ATLANTA BELTING COMPANY
508-510 Whitehall St., S. W., Atlanta, Georgia

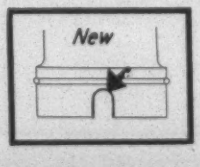
MONTICELLO BOBBINS

"Engineered for Service"





Newly designed Milling Machine cuts rounded top Dog Slots which have replaced all sawed Dog Slots on Monticello Card Room Bobbins. This milling cut results in a stronger Bobbin where most splits begin.



MONTICELLO BOBBIN COMPANY
MONTICELLO, GEORGIA

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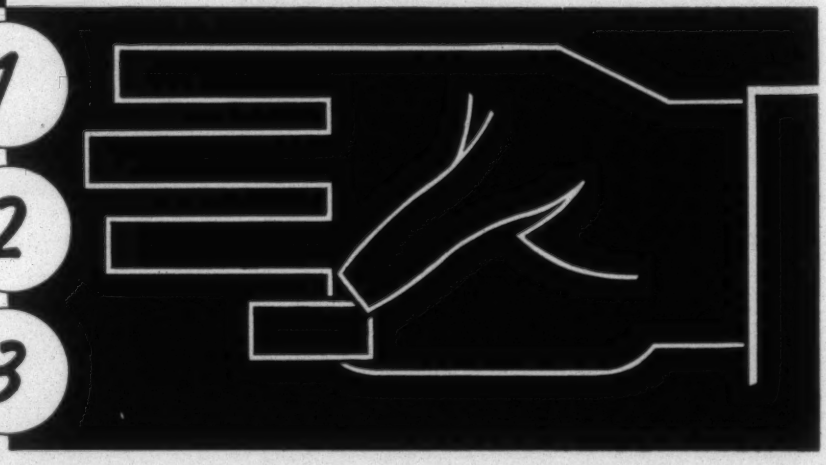

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A Product of the Huyck Industrial Fabrics Development Program

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textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Somebody Needs Something Changed

The press service story was headlined "Change Seen In American Family Life." Being editorial eager-beavers, always on the alert for something which might be construed as offering encouragement to the consistently down-in-the-mouth manufacturer of textiles, we read on.

There was disappointment, however. Nothing to use as the basis for a little pep-talk. No reference to the growing population, to the multitude of new babies in need of coddling and swaddling and subsequently growing up themselves to be purchasers of softgoods.

References to the continually growing population have some significance to the textile industry, but upon finding nothing of the sort in this particular item we almost dropped it to search elsewhere for something to write a topical piece about.

But our eye remained fixed when we read that "The American family has undergone a complete transformation in less than a decade." We wouldn't be too inclined to argue this point; ours certainly has been transformed in ten years from nothing to *some* kind of conglomeration which frequently becomes quite confusing.

However, a double-take was almost experienced when we read that the above statement had been made by a Dr. Margaret Mead, associate curator of ethnology at New York's Museum of Natural History, the pronouncement having been dropped into the collective lap of the Family Service Association of America in biennial convention.

Now, we will have to admit to some degree of bias when it comes to the American Museum of Natural History. A distant relative once left a pile of cash to this institution and we, in an admittedly selfish frame of mind, had thought that we could have used the moola better than could the snakes.

Be *that* as it may, and without looking up the exact meaning of "ethnology," we tried to visualize Madame Dr. Mead. Our mind focussed on the standard type—somewhat lacking in bust measurement, wearing a plaid suit and "sensible" shoes, pince-nez eyeglasses, and by all means the lock of silver hair standing out as the license of intelligentsia among an otherwise drab bun-in-the-back coiffure.

By that time we had developed a real fascination as to just what in hell Dr. Mead was talking about. She went on: "People have children for the joy of having children, rather than as their religious or political duty or out of economic need or as a status-acquiring device." Whoa, lady! That "joy" business has many ramifications which had better not be discussed here. But we weren't aware of the "former" reasons for having chaps, as listed by the good doctor. As a former Sunday school superintendent we often saw the need for additional enrollment, but we never were presumptious enough to ask the rector to promote population growth on his parish rounds. "Political duty?" Who has ever been that loyal a partisan? "Economic need" leaves us puzzled unless a family is subject to a bachelor uncle's will which cuts the estate cake according to the number of nieces and nephews in the various family units. "Status-acquiring device" is, of course, part of the standard P.-T.A. terminology which you can get free at a conference with Sonny's teacher but costs you about two fins on the psychiatrist's couch.

Having confused us, the good lady went on. "This introduces a new hazard that the children will be required to be a joy—perhaps the most onerous requirement which one person can lay down to another." Maybe we're medieval, but we have found it to be extremely hazardous not to have such a requirement. Quiet time at our house just before supper means that the chaps behave or go to their rooms. They do express their displeasure, but Mama and Papa feel that they have to live around there too.

"The outstanding thing about the new family is that the father is as much a part of the home as the mother. Men are becoming husbands and fathers first and their careers are seen as subsidiary to their homes." That statement puts

us in a real quandary. We had thought that all of it, home and career, sort of went along together, with Papa attempting to make enough to keep them fed and trying to avoid a degree of fatigue which causes him to be a bear at breakfast. Don't argue with an expert—do you reckon Dr. Mead has any children herself?—and absorb this final little quote from her address: "However, the 'new' family is a self-centered family, sometimes thinking about the community, but closed to the long-time issues of the world and the future. We are now rearing young people who feel a good, large family is the only contribution they need to make to the world." At that, we have to give up, brainwashed.

The increasing market for softgoods? Have to hit that a lick some other time.

High Drama Of Cotton's Story, As Yet Unfinished

There is high drama and tragedy, too, in cotton, as everyone familiar with its history and background is well aware. Now the Mississippi author, David L. Cohn, has combined a great deal of research and good writing to produce the biography of the most violent of crops in terms of its effect upon a region and on human lives. The highly readable volume, *The Life and Times of King Cotton* (Oxford University Press, 273 pp., $5) should gain a wide popular reception, toward which it is quite naturally aimed, but it should likewise hold the interest of those with a more than cursory or casual acquaintance with the subject.

To those who have an important economic link or association with the commodity or fiber, the Cohn volume will turn out to be an extremely provocative account of cotton and its relation to American economic, political and social history. For Mr. Cohn, with great competence as a story-teller and craftsman, documents the case for—and against—the Cotton South. And whatever the individual's reaction might be, the volume proves convincingly that Eli Whitney actually exerted more influence on American destiny than any other person, statesman or inventor.

The tone or tempo of the volume, easily the most authentic story available on cotton and its impact upon the nation and the South, is set by Mr. Cohn in the foreword, which says in part: "It is the melancholy distinction of cotton to be the very stuff of high drama and tragedy, of bloody civil war and the unutterable woe of human slavery. So too, cotton alone, of all the products of our soil or industry, fashioned the thinking and way of life of a whole great region and despite marked diversities existing among its various parts, made it one. Here I have attempted merely to tell something of an agriculture which fashioned the life of a whole region and profoundly affected the destiny of the whole American people."

As no other commodity, cotton has been a map-maker, a trouble-maker and a history-maker, and on cotton the American South built a social and political pattern and structure basically different from that which prevailed anywhere in the rest of the nation before or since. Mr. Cohn presents the story in minute detail and while one may at times find himself in sharp disagreement with the author, he is compelled to concede that in the end the Mississippian comes as close as anyone ever has to explaining both the old South and the new South.

Cotton has been both a useful and a destructive force, there can be no doubt, and the relationship of the South and cotton has been a curious one of both affection and compulsion. Few historians have been wont to realize fully or adequately the significance of the fateful contraption of young Mr. Whitney's which separated the cotton seed from the lint. Actually the plantation system and slavery, for economic as well has humanitarian reasons, were on the way out up until that time, and John Randolph of Roanoke was even quipping that slaves would soon be advertising for runaway masters.

Obviously the impetus to push slavery westward would never have come without Whitney's gin, nor would the subsequent clamor of the mills of England's midlands for all the cotton the South could raise. And, of course, King Cotton's influence provided the economic support for Southern irreconcilables who led the way to secession. Cotton, too, was the basis of a great and destructive error of the Confederacy's governmental policy which presumed that England and France would come to the aid of the South if cotton were withheld from the world market. And, quite significantly today, cotton still exerts a major influence on U. S. economic and foreign policies.

For cotton there came a few years of dizzy prosperity during World War I and the 1920s, but then came the drab depression and once again King Cotton betrayed the Old South by moving to the irrigated lands of Arizona and California, where the fiber could be grown under irrigation and mechanically picked for greater profit.

Starting, as he properly should, with the invention of Whitney's gin, the author notes that cotton fastened on the United States a massive race problem, and enormously advanced the industrialization first of England and later of the continental European states. And at the same time, Mr. Cohn makes note, cotton became the most important item in the American trade balance and started on its way to becoming the great factor it is in international politics and economics.

If a major fault is to be found with Mr. Cohn's book, it is his failure to carry forward the story of cotton in the post-World War II era on the same grand scale with which he applies to the earlier periods. Of cotton's future, Mr. Cohn asks at the close of his biography of a non-human yet many-faceted entity: "There is no easy answer to the cotton problem. There may be, in fact, no answer to it at all. . . . But as a nation we are somehow committed to the naive concept that we can solve difficult international, social or economic problems by finding a sovereign remedy that will dispose of the problem for all time. . . . Profoundly difficult problems may perhaps be ameliorated. They cannot be solved in the patent medicine sense."

Still, there's a long story ahead for U. S. cotton and one wishes Mr. Cohn might have dealt a little more in detail with the impact of economic and chemical aspects which are shaping the destiny of U. S. cotton today, and particularly with respect to the trend of present U. S. foreign policy.

In Re 'H. K.' — Flowers For The Living

After hearing and reviewing the address, "Prepare for Tomorrow," made by H. K. Hallett before recent meetings

of the Carded Yarn Association and the Greater Charlotte Textile Club, we felt that his words were deserving of a wider audience in the textile industry. They are published in this issue, beginning on Page 63.

We trust that this is not the final word of advice to our industry from Mr. Hallett. Here is a man who has served well his own mill organization and who has been a statesman for the entire industry. His active career has been halted by retirement, but we hope that his orderly mind will continue to be used by the industry.

If The Sock Fits, Wear It

One of the major dye producers serving the textile industry has announced an 18 per cent increase in prices of most of its line, effective Jan. 1. Mark this down as one more piece of evidence that the price structure of textile products should have another inspection.

What was so impressive about the dyestuff firm's announcement was its forthrightness:

"We are fully aware that these increases are being made at a time when competition in the dye industry is the keenest in history. They are, however, an economic necessity if [this firm], as a major supplier, is to continue to provide its customers with the quality products and diverse services they need and want.

"Increases in dyestuff prices in the past few years have been nominal, at no time affecting the entire dyestuff line and by no means offsetting the rapidly increasing costs of manufacturing and delivering dyes to customers. [The company cites] plant, research, development, application, standardization, quality control and technical services as cost factors, yet factors that insure to the dye-consuming industries a continuing supply of quality products and maintenance of rigid specifications."

Substitute the word "textile" where it reads "dye" and "dyestuff" above, and doesn't it make sense?

Southern Textiles' 25-Year Growth

What would be your answer if you were asked this question: "Are there more, or fewer, textile plants in the Southern states this year than there were 25 years ago?"

If you have read enough about the drop in spindleage, mergers, consolidations, etc., you probably would say "fewer."

Facts: The 1931 edition of *Clark's Directory of Textile Mills* indexed a total of 1,328 textile plants of all types—spinning, weaving, finishing, hosiery, underwear and outerwear. The 1956 edition shows a total of more than 1,700 such plants in operation.

What would an audit show has caused this increase? There has been a lot of loose talk about the South taking over the woolen and worsted industry, but the number of new Southern plants in this category less than 25 years old is not too striking. Plants processing synthetic fibers? Perhaps in weaving only, but most of the plants spinning synthetic staple have changed over from cotton. Finishing? Yes, quite an increase, since the South formerly concentrated in greige goods; but remember that numerically, there are not too many commercial finishing plants. Knitting plants may be the answer, since the South has seen a remarkable growth in knitgoods manufacturing in the past quarter-century.

A dying textile industry? Far from it.

TEXTILE INDUSTRY SCHEDULE

— 1957 —

Jan. 28-29 (M-Tu)—Annual meeting, **NATIONAL COTTON COUNCIL OF AMERICA**, St. Louis, Mo.

Jan. 28-31 (M-Th)—**PLANT MAINTENANCE & ENGINEERING SHOW**, Cleveland (Ohio) Public Auditorium.

Feb. 25-27 (M-W)—**GEORGIA SEC., AMERICAN SOCIETY FOR QUALITY CONTROL**, Georgia Institute of Technology, Atlanta, Ga.

Feb. 25-Mar. 1 (M-F)—**INTERNATIONAL HEATING & AIR CONDITIONING EXPOSITION** (sponsored by American Society of Heating and Air Conditioning Engineers), International Amphitheatre, Chicago, Ill.

Feb. 27-Mar. 1 (W-F)—**COTTON RESEARCH CLINIC** (sponsored by National Cotton Council), General Oglethorpe Hotel, Savannah, Ga.

*Mar. 11-13 (M-W)—Spring meeting, **NATIONAL COUNCIL FOR TEXTILE EDUCATION**, Wilmington, Del.

Mar. 14-15 (Th-F)—**SOUTHERN TEXTILE METHODS & STANDARDS ASSN.**, Clemson House, Clemson, S. C.

Mar. 14-15 (Th-F)—Annual meeting, **TEXTILE RESEARCH INSTITUTE**, Hotel Commodore, New York City.

Mar. 28-29 (Th-F)—**TEXTILE QUALITY CONTROL ASSN.**, Clemson House, Clemson, S. C.

Apr. 4-6 (Th-Sa)—Annual convention, **AMERICAN COTTON MFRS. INSTITUTE**, Palm Beach Biltmore Hotel, Palm Beach, Fla.

Apr. 9-11 (Tu-Th)—**NATIONAL PACKAGING CONFERENCE AND EXPOSITION** (sponsored by American Management Assn.), International Amphitheatre, Chicago, Ill.

Apr. 10-12 (Th-Sa)—Annual meeting, **ALABAMA COTTON MFRS. ASSN.**, Buena Vista Hotel, Biloxi, Miss.

*Apr. 24-25 (W-Th)—Open House, **A.C.M.I.** Cotton Fiber Testing Laboratory, The Clemson House, Clemson, S. C.

*Apr. 29-May 3 (M-F)—**MATERIALS HANDLING EXPOSITION** (concurrent with conference of American Material Handling Society), Convention Hall, Philadelphia, Pa.

May 1-2 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Clemson House, Clemson, S. C.

May 1-4 (W-Sa)—Annual convention, **COTTON MFRS. ASSN. OF GEORGIA**, Emerald Beach Hotel, Nassau, Bahamas.

*May 9-11 (Th-Sa)—**NORTH CAROLINA INDUSTRIAL SAFETY CONFERENCE**, Robert E. Lee Hotel, Winston-Salem, N. C.

*May 16-18 (Th-Sa)—Outing, **CAROLINA YARN ASSN.**, The Carolina, Pinehurst, N. C.

May 20-25 (M-Sa)—**NATIONAL COTTON WEEK** (sponsored by National Cotton Council of America).

June 20-22 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, Ocean Forest Hotel, Myrtle Beach, S. C.

*Sept. 4-6 (W-F)—Fall meeting, **THE FIBER SOCIETY** (joint meeting with British Textile Institute), Statler Hotel, Boston, Mass.

Sept. 12-13 (Th-F)—Annual meeting, **CARDED YARN ASSN.**, The Cloister, Sea Island, Ga.

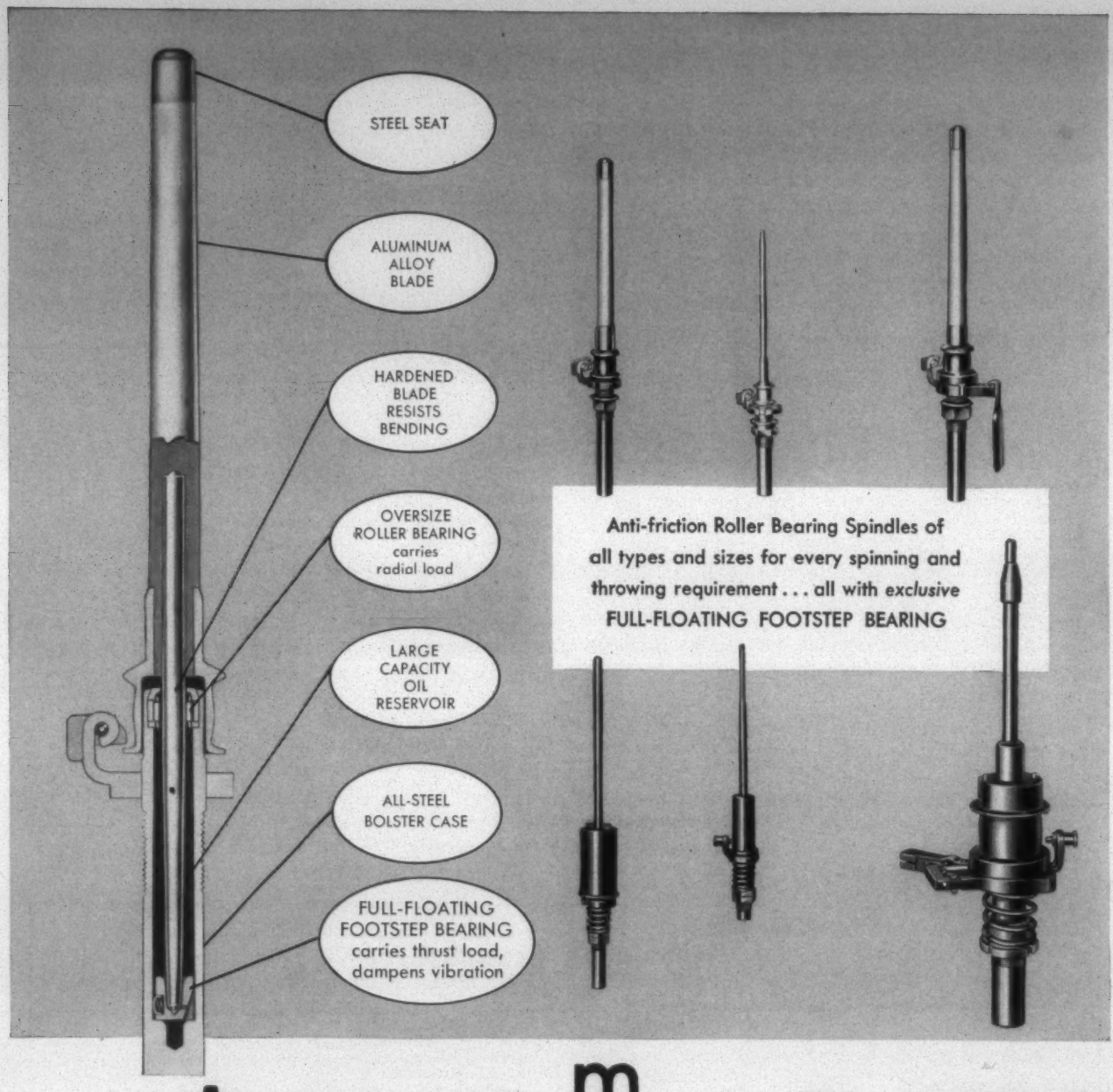
Sept. 27-28 (F-Sa)—**COMBED YARN SPINNERS ASSN.**, The Cloister, Sea Island, Ga.

Oct. 2-3 (W-Th)—**CHEMICAL FINISHING CONFERENCE** (sponsored by National Cotton Council), Hotel Statler, Washington, D. C.

Nov. 14-16 (Th-Sa)—National convention, **AMERICAN ASSN. of TEXTILE CHEMISTS & COLORISTS**, Hotel Statler, Boston, Mass.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday; (Su) Sunday

****Listed for the first time this month.*** ‡***Tentative listing.*** †***Changed or corrected from previous issue.***



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textile bulletin

VOL. 82 DECEMBER 1956 NO. 12

THE ALERT MILL WILL

PREPARE FOR TOMORROW

By H. K. HALLETT

Always referred to by his initials rather than his full name (Howell Knight), Mr. Hallett requires no identification in this industry. As a former president of the American Cotton Manufacturers Institute and of the North Carolina Textile Manufacturers Association he is well known. This month he retires as vice-president of the Kendall Co. and general manager of its cotton mills division, and the following article might be considered as his "swan song," a final bit of advice to the textile industry. He appeared as principal speaker at the recent annual meeting of the Carded Yarn Association, and repeated his remarks at this month's meeting of the Greater Charlotte Textile Club.

WHAT is ahead of us for the next 25 years? If the last 25 years are any gauge, they will be challenging, there will be changes, there will be great opportunities for those who accept the challenges and who are not complacent and who are not afraid of changes. As you know, Chicago held two World Fairs—one in 1893 and another in 1933. The amazing thing to me is that nearly half the visitors to the second fair were earning a living from industries which were non-existent 40 years before. But there have been even more rapid changes with new products and new industries in the last 25 years. The question is—are we awake to the *current* changes which are going on?

First, let's follow history a little. Maybe you start by saying the fig leaf was the beginning of the textile industry—the first article of clothing. The first fabrics were animal skins and people wore them for clothing. There was another early development, the making of baskets and mats by intertwining reeds from the swamps. From baskets we had reed clothing. Later, of course, we had the flax or linen industry.

Two thousand years ago men beat gold and silver into thin foils, made them into fabrics for royal clothing. Then as the population grew in Europe we had the beginning of fabric clothing made from animal hair—the wool from sheep and goats. But as wool became expensive, people tried to change by adding seed fibers and hence cotton came into the picture.

All the foregoing is history, but it does illustrate the competition of materials and the changes of these earlier days even though the changes were rather slow. The important question is what is ahead. We are hiding our heads in the sand if we do not see what is going on around us and recognize it for what it is and plan constructively to do something about it. As David Sarnoff, president of R.C.A., said, "The challenge of tomorrow fascinates me much more than the achievements of yesterday."

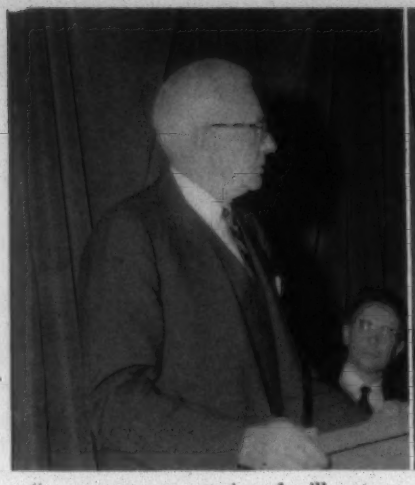
We have learned from history that a fabric is not necessarily a woven one and that it does not necessarily contain any fibers. In thinking of the future we must consider non-fibrous bodies as well as fibrous. This is true, because today we have the tremendous advance in chemical skills. The chemist can cast fabrics or extrude fiber through nozzles. He can change their molecular character. He can govern thickness, strength, color, electrical properties and many others to fit particular requirements.

A recent *Journal of the American Chemical Society* projects the production of polyethylene at one billion pounds by the end of this year. A lot of this material is going into articles which cannot be ignored on the assumption they are not competitive with the fabrics or yarn industry. You know of as many examples as I do. The production and use of polyethylene for bags and sheeting wrapping material is tremendous. You all know what has happened to the cotton bag business.

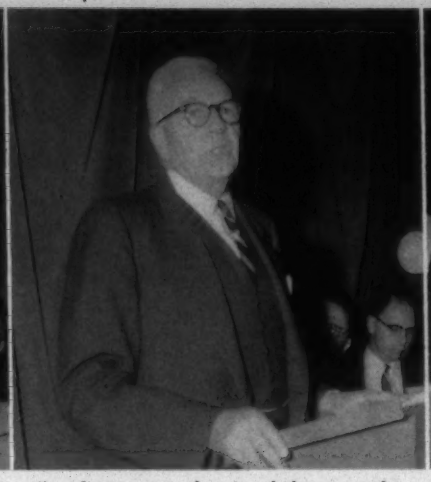
Take another illustration of a business which carded yarn men used to have a big stake in. Electric light cords 15 years ago were braided. The telephone wire on your desk set was once wound with cloth and braided with cotton yarns. Stop and think what has happened in this field, to other electrical wiring, the garden hose, and artificial leather which used to require cloth backing. The use of polyethylene as a coating and the extruded vinyls give a better product at a lower price.

One could go on and ask where is the duck shower curtain of 15 years ago, the cotton doilies, the mackintosh rain coats and the cotton upholstery in hotel lobbies and in automobiles. The answer is that former cotton products are obsolete, and they are now products of the chemist.

An old product like paper for women's dresses seems fantastic. Don't fool yourself. One paper company has already developed beautiful paper dresses. They are being found in the moving picture studio where their use at the moment is for a special, one-shot purpose. Cogitate a bit on



". . accurate computation of mill costs—fundamental . ."



". . long-range planning helps to make things happen . ."

". . the mill which is alert will . . . stay in business . ."

the future possibilities and their impact on textiles. Think of the many non-woven products and the several areas where they have supplanted woven materials and yarns.

From the foregoing remarks it would not be surprising if you felt I were pessimistic about the future of cotton—cotton yarns and cotton fabrics, or even synthetic yarns. Such is not the case. However, I do say that the changes going on around us have to be recognized. Complacency must be thrown out the window. Drastic thinking, planning, innovation and action must be taken if you are to stay in business.

Are we ready for drastic action? We see advertisements, "Success in ten easy lessons." The emphasis seems to be on the word "easy" without defining "success." Recognizing current trends, obsolescence and substitution of materials or products for certain end-uses, and planning to do something constructive about it is not easy.

I recognize that in confronting the future some of your difficulties stem from size alone. I am informed that the average carded yarn mill has 14,200 spindles, that 46 per cent of the mills are under 10,000 spindles, and that 71 per cent are under 15,000 spindles. Also, I am aware of the many varied and specialized yarn products. These conditions add to the difficulties, but they are the facts which have to be faced in seeking solutions.

Some of the various points I will mention some of you are already doing. Many of you will say, "they are not for me." In any event if I can stimulate your thinking, even to the point of your saying I am crazy, then I will at least have aroused your interest and accomplished my purpose.

In the July-August issue of *Harvard Business Review* Edward Barnet reminds us that there are many manufacturers today who do not know what the role of their own products may be as a component of a retailer's assortment of goods. Even though you only sell yarn to a knitter of undershirts, it is the retailer who helps to make your market. More and more consideration is being given to the fact that the cost of production and distribution is only one problem. This is illustrated by the way in which Sears Roebuck works closely with the manufacturer and together how they are able to look at the total picture. All of this compels and forces continuous research for new products, new applications and new methods. Handicapped competition that looks backward and tries to preserve the old policies and procedures will find them adequate only for the past.

Now what about some suggestions to consider?

One yarn mill I know of has a technical engineer—not a salesman—who visits customers four times a year with the idea of servicing complaints before they become serious. Not being a salesman he gets into the plant and talks with the foreman whose department actually uses the product. He observes first-hand the actual processing of his yarns. He finds out what trouble is being experienced, if any. If there is any difficulty, is it due to the processing in the plant? Would it be helpful if the put-up were changed for improvement in processing efficiencies?

The technical engineer keeps the user informed in advance as to any change in cotton characteristics from crop to crop. Suggestions are made for handling without major changes in the plant's processing.

In my book that type of service pays big dividends. Psychologically alone the program has a tremendous effect on the customer's machine operators who would tend to excuse occasional off-quality shipments, since the yarn mill is continually checking and showing concretely that it is making a definite attempt to correct errors. As a matter of fact we have been buying yarn from this particular mill for 15 years or more, and with the type service I have described, we will probably continue our purchases for many more years.

Now let me mention a situation which I doubt would have happened if the mill had had a technical engineer visiting the customer regularly. In one of our divisions we make a consumer product which is not bleached. The yarn supplied by one mill had blue chalk marks which showed up in the final product. This mill was one of three on the approved list for purchases. The other two mills said they would ship yarn without chalk marks. The one mill said it could not make shipment without chalk marks. The result was just what you might expect. The third mill was dropped from the list to receive inquiries for yarn until they could find a way—as the other two mills did—to make their product conform to the customer's requirements.

To me the technical engineer is illustrative of only one type of several services which yarn mills need today. How are they going to get these services?

In the cloth market with mergers and more integrated operations we have seen a gradual decline in the use of the selling house as such. Is a similar change in the cards for the yarn broker? Some of my best friends are in this yarn

brokerage business, so I hope they will consider what I am saying as at least challenging and provocative. There is an impression, right or wrong, that the brokers, having no direct financial interest in the mills they service, over the long-run have tended to create pressure on prices. Furthermore, I am told that the small mill has to depend on the yarn broker for his market information, and from experience in some cases this has not always been accurate. However, in the main I am talking about the possibilities of other types of services.

How are the small yarn mills, which are predominant in the industry, going to have the necessary services of today and the future made available to them? Which is better—to have the services offered by the yarn broker or by the industry itself, setting up certain centralized functions? In either case it will cost money. If it is by the broker, it will be by the route of increased commissions. If it is done by the industry, it will be by increased dues per spindle. You well may say you cannot afford to pay higher selling commissions or to pay higher dues. To me the question might well be—can I afford *not* to pay to meet the challenge of the future?

What are some of these necessary services? (1) I have already referred to the advantages of a technical engineer. (2) The most envied slogan today is General Electric's "Progress is our most important product." To me one important phase of this means product and market research.

I am fully aware of your difficulty in this respect when yarns in most cases are not the final consumer product. However, in spite of the challenging difficulties, the real boss in any business is the ultimate consumer, and if you do not bring out new products your competitors will.

To me it seems you are going to bring out new products only by establishing joint research endeavors with your customers. I put this question to a yarn buyer and a technical man in one of our other divisions. I was told they would welcome finding a manufacturer who would be willing to work closely with them in the development of new products requiring yarns of special characteristics. This indicates to me that the opportunities are there if you get organized to go after them.

All of this reminds me of certain remarks made by T. V. Houser, chairman of the board of Sears Roebuck, in his address at the A.C.M.I. 1955 convention. His thoughts are so pertinent to the point I am trying to make that I want to quote:

> The industry has a high selling cost, and it could get more value for these expenditures if selling forces could be used to perform more than the direct role of salesman. Let me illustrate with two examples: We had a sales representative of a very large mill tell us it was impossible to make a certain weight synthetic blend fabric washable. Within a few weeks we had it in production in another mill, where sales and production are most closely integrated. We now use about one million yards per year of this fabric.
>
> And here is another example. The sales heads of several large mills told us it was impossible to blend certain synthetics and natural fibers to make a fabric we felt our customers would want in work clothing. The owner-sales manager of a small but modern mill found the way to make this blend in less than six months, and we now buy several million yards per year from him.
>
> It becomes evident in the textile field, product development can take place at several different points in the production process—in the blending of fibers used, in the construction of *yarn* or fabric, in finishing, or in further steps in fabrication. However, the starting point must be a basic understanding of the customer's desires.

In other words, there must be more product research and in collaboration with your customer. Invention, product development and research are not just a passing fashion of modern industry.

A third service which should be available through some dependable source or a central mill organization is the accurate computation of mill costs. This is so fundamental I hesitate even to mention it.

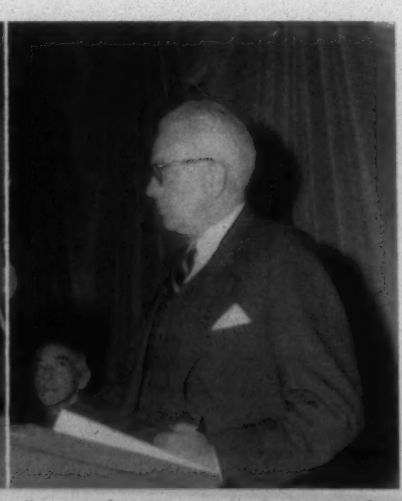
It seems to me, for example, it is obvious when you are working with a Sears Roebuck, or another manufacturer on new products, it is essential that you know, without question, the accurate cost of any particular yarn. The days of over-all or average mill costs are gone even in the smallest mill. Every mill, yarn or weaving, has to know the cost of each count of yarn or each cloth construction in order to merchandise intelligently. Remember I mentioned that in today's markets the cost of production and distribution is one problem—and that means each element of cost.

You may say that the price of your raw material is politically fixed, if it is cotton. You may say your wages have a floor and are determined by Congress. You may say that with the Japanese competition, plus an already most competitive American market, your sales prices are pretty well fixed for you.

Taking all of this for granted and saying it is the peculiar characteristic of the business you are in—none of us are in any business for the fun of it. You are in business to make a profit—profits in order to keep your plant modern, profits for product research, and profits for the security of your

". . the real boss in any business is the ultimate consumer . ."

". . are we awake to current changes? . ."



". . complacency must be thrown out the window . ."

employees. Is your market price for yarn such that you will earn a fair return on your net investment—and here I mean the investment in your buildings, machinery, inventories, accounts receivable and the like?

Another possible service for the broker or your central organization, and that is long-range planning. General Electric, for example, plans ahead for ten to 15 years. This is necessary in order to plan for their markets, new products and financing for capital requirements.

You may say that planning ahead in the textile industry is practically impossible. Textiles are non-predictable. Who in the world can predict wage rates? What about the effect of substitute materials? What about future tax rates?

On the other hand, isn't it essential to make some premises or assumptions as to what products may be vulnerable to obsolescence? And what products have potential growth? Don't you need to make some financial plans for modernization and plant growth? I am sure you make plans for the development of your organization personnel, so why not for other phases of your business?

To me long-range planning helps to make things happen that otherwise might not occur. This is true because you have future goals and objectives. And in talking about future planning I mean long-range trends, not short-term swings.

If the indices of births, savings, disposable income and the like, indicate adverse trends, do you wait until such happens, or do you make plans to do something about it? It could well be that even with an adverse forecast you wouldn't cut back but would accelerate your product research and promotional plans. It is admitted that long-range planning is not perfect, but by having made such maybe the actual results will work out better than if you had none at all. In my own company we make forecasts for five years ahead. Then each year one is dropped and another fifth year is added.

Actually the entire situation boils down to the fact that we are in a changing world. New developments are taking place. Customer requirements are shifting constantly. If mills do not keep abreast and even ahead of these changes, they will find themselves with fewer and fewer customers. It is the mill which is alert to its customer's need that will stay ahead of the game and remain in business.

If I have made you mad, if you say some of these thoughts are impractical—all right. But, if I have made you mad to the point that you will do some serious thinking about the changing times and the problems which are here and ahead of us, then will I have accomplished my purpose, for in truth I will have stimulated you to "Prepare for Tomorrow."

The Import Snafu: A Study in Irony

STAFF PREPARED

ANOTHER calendar year moves toward a close. And there would seem to be, as of the moment this is written, that there is little chance indeed of a positive, tangible and acceptable agreement being reached in the last days of 1956 which will effectively solve the disturbing problem of Japanese cotton goods imports. Yet the problem is one which has even now confronted sizeable segments of the U. S. mill industry with ruinous competition and some actual liquidations. For the industry generally it has posed such uncertainties as to preclude a degree of confidence normally essential to forward planning.

Continued lack of evidence that the Eisenhower Administration is anywhere close to reaching a worthwhile negotiated agreement with Japan on the volume and categories of cotton goods to be exported into the abundant U. S. home market is beginning to tax the patience of mill men. And for quite a while now it has evoked the undisguised ire and cry of "politics" on the part of U. S. senators, representatives and the governors of textile and cotton states, many of whom suggested even in the beginning that a settlement promised in the midst of a political campaign could easily fall flat as soon as the election was over and done with.

Indeed, such strained and over-taxed patience is resulting in rumblings of discontent in many quarters. Such expressed sentiment is generally to the effect that unless the administration is able to make good on the promise to the U. S. industry it made back in September, and which a good part of the industry was willing at the time to accept with hope and "cautious optimism," pressures are going to mount rapidly in the new Congress for a renewal of efforts to bring about an acceptable and equitable solution by the legislative branch of the government.

This, of course, the administration quite naturally would like to avoid. Yet mill men who review the whole record of State Department policy in respect to cotton goods imports say candidly there is an abundance of evidence that would seem to lead inescapably and logically to the conclusion that U. S. cotton mills, concentrated largely in the South, have been earmarked for the sacrificial altar to a far greater degree than any other basic American industry.

Back in September the Administration informed the textile industry that the Japanese Government had agreed to limit cotton textile exports to this country in 1957 to the 1955 level. Notice of the agreement was relayed to a meeting of the Northern Textile Association, attended by other leaders of the industry, by Sherman Adams, one of President Eisenhower's trusted assistants. Details of the agreement were to be worked out as soon as possible and it was hailed by many domestic textile leaders at that time as a step in the right direction.

Out of it all nothing very concrete has come as of now and reports emanating from Japan indicate an impasse—or perhaps the better word would be "snafu." The whole promised agreement, of course, hinges on details as to categories, sub-totals, etc., as well as an over-all limitation. There has been nothing to indicate the negotiators are very close to settling any of these matters. In recent weeks a number of industry leaders have been called to Washington by the government for individual consultations. It is understood that

Savage, Johnston, Dalton, Hamilton, Roseman

THE GREATER CHARLOTTE TEXTILE CLUB installed new officers at its Dec. 10 meeting, which featured an address by H. K. Hallett, Kendall Mills official who is retiring this month. Succeeding R. I. Dalton Jr., Southern agent for Whitin Machine Works, as president of the club is David R. Johnston, president of Johnston Mills and affiliated companies. Donald E. Hamilton, Comer Machinery Co., is the new first vice-president of the textile club. L. A. Savage, who is succeeding Mr. Hallett as Kendall Mills general manager, is the club's second vice-president for 1957. Demont Roseman Jr., business editor of the *Charlotte Observer*, continues as secretary-treasurer of the club.

these consultations have been primarily to accumulate information of a more or less statistical nature.

The sense of urgency felt in states whose whole economy is so closely linked to textile manufacturing was underscored early in December by an official statement of Gov. S. Marvin Griffin of Georgia, which said:

"It is time the Eisenhower Administration backed up the promise of relief it made to the textile industry back in September." He added that the promised relief had been accepted in good faith by the mill men and that many of them went ahead with plans for expansion. Moreover, he reminded that a general increase in wages was granted within hours after Mr. Adams made the announcement of the negotiated agreement in September.

The governor of Georgia went on to remark: "This action demonstrated the faith the textile industry put in the Administration. It is exceedingly unfortunate that the Administration has not acknowledged this faith by giving the mills the relief it so dramatically announced last September—a little over a month before the presidential election. We all hope that Mr. Adams was not playing politics with our textile officials and the hundreds of thousands of textile workers when he solemnly announced that relief from the crushing Japanese imports was forthcoming."

The governor of Georgia has not been alone, of course, in this type of thinking. A little earlier, the Southern States Industrial Council warned that the promise of a U. S.-Japanese agreement limiting cotton textile imports "came in the midst of the political campaign" and may now be pigeonholed by the government. The statement, filed by Tyre Taylor, general counsel of the organization, with the House Ways and Means Subcommittee on Tariffs and Trade, also quoted Gov. Luther Hodges of North Carolina as saying essentially the same thing.

Meanwhile Sen. Olin D. Johnston of South Carolina has announced that new "rigid" legislation will be introduced early in the next Congress calling for definite import quotas on all types of Japanese textile fabrics and garments. The South Carolina senator from the start has criticized the Administration for failure to take its own action to limit imports and has denounced the Jap voluntary quota plan as "without teeth" and subject to change or revocation at any time.

Wire service dispatches from Tokyo have reported some of Japan's leading newspapers to be sharply critical of U. S. attitudes in the negotiations toward a voluntary agreement. And press correspondents in Tokyo have also cabled the news that the U. S.-Japanese "discussions" have bogged down on important items including the over-all import ceiling and restrictions on individual items such as ginghams and velveteens.

According to these reports from Tokyo, the U. S. wants Japan to limit cotton shipments to 220 million square yards annually while Japan wants an annual quota of 270 million square yards. Japan has been reported to be ready to compromise on 245 million square yards but this is believed to be unacceptable to the American industry.

In fact, oddly enough, virtually all of the "news" pertaining to the progress of the negotiations has emanated from Tokyo, rather than Washington. Officials in Washington have been more reticent than usual. One bone of contention, according to the Tokyo reports, has been that Japan's concept of the amount of cotton textiles exported to the United States last year is at variance with this nation's total. Accounting for the diffference is the fact that shipments to the United States take about six weeks. Until these goods arrive on these shores they are not considered imports. On the other hand the Japanese list the goods as exports as soon as they leave.

Louis Harris, executive news editor of the *Augusta* (Ga.) *Chronicle,* who has been studying the Japanese textile industry on a traveling fellowship of the Southern Association of Neiman Fellows, is quoted in the press as remarking in the course of a Tokyo interview that "there is going to have to be a lot of give and take on both sides" to settle the cotton textile dispute between the United States and Japan.

He is quoted further as saying: "From what I have picked up talking to Japanese and Americans, a possible solution is a more realistic approach that would permit the American textile industry and Japanese textiles officials to arrive at a mutually satisfactory solution which under the existing anti-trust laws is not possible."

He particularly noted, too, that the Japanese "resent what they term discriminatory laws that have been passed in Alabama and South Carolina because of the huge amount of cotton they purchase from the United States."

South Carolina and Alabama early in 1956 enacted laws requiring merchants selling Japanese textile goods to post signs reading "Japanese Textiles Sold Here." In Georgia a commission named by Governor Griffin to study the impact of Japanese textile imports upon the state's economy has recommended that the 1957 Georgia legislature enact a similar law. Also in Georgia the state Farm Bureau Federation has recently adopted a resolution urging textile import quotas for the protection of U. S. mills.

In South Carolina, Rep. Bate Harvey of Clover has announced that he will reintroduce in the 1957 legislature a bill that would require the licensing of wholesalers and retailers of Japanese textiles in the state, but chances are

considered to be slight that such proposed legislation would ever get out of committee. Nevertheless, it is indicative to some extent of a tempo of aroused public opinion among community and business interests in counties and areas which are largely dependent on textile manufacturing for their economic existence.

Actually Japan's offer of Sept. 27 was pegged or contingent upon the condition that the United States do something about the state laws such as were enacted by the legislatures in South Carolina and Alabama. And subsequently Japanese official sources have indicated that if the U. S. Government is unable to prevent such laws, it should relieve Japan from treaty obligations requiring there shall be no Japanese discrimination against U. S. goods.

The United States and Japan signed a treaty of friendship, commerce and navigation in 1953. It provided, among other things, for equal treatment without discrimination in the sale of products of the two countries. The Japanese contend that such laws as were passed early this year in South Carolina and Alabama violate the treaty. U. S. State Department legal advisers have, in fact, supported this interpretation, but the issue has not come to a court test which would be necessary in order to declare the state laws invalid. The issue, it goes without saying, is a ticklish one for the Eisenhower Administration.

Critics who have viewed the proposed voluntary agreement as "setting a dangerous precedent" for bypassing Congress have contended that if the United States does not comply and do something in respect to the state laws, Japan would be free to ignore her side of any "voluntary" agreement and that if after a year, for example, South Carolina or Alabama or both have not repealed the "discriminatory" laws, Japan could claim failure of compliance by the U. S. and thus free herself from any further limitation of exports.

Meanwhile a great deal of concern has been and is being expressed that the trans-shipment of Japanese cotton textiles could very well render meaningless any voluntary export quota system when and if it should evolve. Recently Sen. Frederick C. Payne of Maine commented that "while we should all respect the good faith of the Japanese Government, it remains to be seen whether trans-shipment through such middle points as Hong Kong can be effectively controlled."

And A. G. Myers of Gastonia, chairman of the board of Textiles Inc., pointed out in an address before a recent meeting of security dealers that even if Japan were to adhere to voluntary export controls, the many avenues open for trans-shipment of goods from a third country "is still something that could cause us trouble," and that "actually we need very specific quotas that can come in from any country, so that there would not be the constant threat of dumping cheap goods on the domestic American market."

Since the start of the U. S.-Japanese negotiations, the Tariff Commission has found that heavy imports of cotton velveteen fabrics, principally from Japan, are causing serious injury to the U. S. domestic industry. It has recommended that the duty on plain-backed velveteens be increased from 25 to 46⅞ per cent ad valorem and the duty on twill-back velveteens be increased from 22½ per cent to 56¼ per cent.

The opinion has prevailed in Washington, however, that President Eisenhower probably won't act on the Tariff Commission's recommendations for stiff hikes in tariffs on velveteens pending the outcome of the present negotiations between the U. S. and Japanese governments. The President is not necessarily bound by the commission's recommondations and can do whatever he thinks best, but has only 60 days to act on the matter, one way or another. Since the Tariff Commission made these recommendations on Oct. 24, the decision from the White House is expected by Christmas.

In the eventuality the negotiators should fix specific voluntary limitations on specific cloth categories before the President announces his decision, many in the trade have inclined to the belief that his action will be guided by the quantity of velveteens to be allowed under such an agreement to enter this country. The United States would like to see velveteen shipments limited to 1,000,000 yards in 1957 according to unofficial estimates. These same sources put the Japanese figure at some 4,000,000 yards.

The Tariff Commission found that imports of the two types of velveteens have increased "substantially and continuously" over a period of years and are a "substantial cause of serious injury to the domestic industry." It also found that total wages paid to U. S. workers engaged in the production of velveteens were more than 50 per cent smaller in 1955 than in 1951 and that hourly earnings of the workers also have decreased.

In contrast to its recommendations in respect to velveteens, however, the Tariff Commission late in November, and by a bare 3-2 decision, determined that cotton pillow cases imported into the United States from Japan are not threatening serious injury to the U. S. domestic industry and announced it would not recommend that President Eisenhower withdraw or modify present tariff concessions on these articles.

Commission Chairman Edgar B. Brossard and Member Walter R. Schreiber filed a dissenting opinion which declared that the domestic industry is suffering serious injury as the result of vastly increased imports. A sixth member of the commission did not take part in the investigation and abstained from a vote.

The commission reported that imports of cotton pillow cases from Japan rose from 66.000 dozen in 1952 to 110,000 dozen in 1954 and 977,000 dozen in 1955. It said that mostly imports from Japan rose from mid-1954 to the end of 1955 but declined this year, and that all indications are that the imports for the whole of 1956 will be "very much below" those of 1955. The pillow cases are now subject to a duty of 12½ per cent ad valorem as the result of tariff concessions made to Japan by the United States last year.

Essentially or basically the commission's majority opinion as to pillow cases was that the plants which produce the bulk of U. S. pillow cases also produce other cotton goods, particularly sheets, and that because of this fact it could not see that any serious damage has resulted from import competition, even though it conceded Japanese-produced pillow cases sold in the U. S. market at an average price that was 31 per cent lower than the U. S. produced pillow cases last year and in the first six months of this year the Japanese price advantage was 37 per cent.

Another "escape clause" hearing before the Tariff Commission involves Japanese gingham fabrics. Domestic manufacturers cite that Japanese ginghams entering this country soared from six million square yards in 1954 to 46,700,000 square yards in 1955 and to a high of 70 million square yards this year and that the Japanese material has an advantage of 15 cents a yard over domestic material. This, as one textile man remarked, is hardly competition but rather a "massacre."

There have been some odd and indeed ironic facets in the total picture to emerge during the long efforts to find an acceptable solution to the problem of spiraling Japanese imports, those close to the situation have pointed out. For instance, the textile industry's apparent willingness late in September to go along with the Administration's efforts to negotiate ceilings on Japanese imports has tended to create a growing resentment among some non-textile interests.

This resulted from a feeling on the part of some other industries that they too have been severely injured by imports and that once the Administration has "solved" the textile situation their own pleas for protection will fall on deaf ears. Too, some textile manufacturers outside the cotton segment of the industry have felt that their problems are being overlooked entirely.

A view has prevailed in some quarters that quotas on specific textile items, though they are undoubtedly needed, mean that other lines of textiles will have to take up the slack and that branches of the industry heretofore free of major import difficulties will have to share the problem.

As of this late moment, however, it remains to be seen just what the Eisenhower Administration is able to come up with in the way of a "voluntary" or negotiated agreement with Japan, and how close it may come to being acceptable to the domestic textile industry. Ever since the import crisis evolved, it should be noted, the industry has been trying to obtain import quotas established on a bilateral and definitely binding basis, which it contended could be done either by Congress itself or through effective administration action under existing provisions of the Agricultural Adjustment Act.

The "voluntary" or negotiated agreement, of course, is ostensibly a way by which the Administration feels it can bring relief to the sorely hurt textile industry without fundamentally altering U. S. foreign trade policy, observers of the developing situation have pointed out. And they add that quite obviously, both from the viewpoint of the Administration and from the viewpoint of Japan, it could be the means of relieving the strong pressures that have accumulated upon Congress for direct quota restrictions.

For more than two years now the rising tide of Japanese cotton goods entering this country has been attributed as the primary factor in the liquidation of several mills and countless production cutbacks. Uncertainty over the future has caused the abandonment or delay of a number of expansion and modernizations projects involving many millions of dollars.

In the late 1930s, it can be recalled, the price structure of the U. S. cotton textile industry, already staggering under great over-capacity, collapsed before a Japanese textile onslaught. An unofficial U. S. industry mission to Japan worked out a "gentleman's agreement" with the Japanese industry itself as to export volume. The agreement was not renewed, however, because it had no official sanction and the U. S. State Department frowned upon it.

Now in a changed world and under changed circumstances, chances of a "gentleman's agreement" that is acceptable do not appear to be quite so propitious, it seems to be agreed in the trade. And there are many who point out that this is just one more ironical aspect of a situation which has tended to make the U. S. cotton textile industry a football in the game of international politics.

What Qualities Make a Good Supervisor?

By D. J. MOFFIE, Ph.D.

In picking a supervisor, what qualities do you look for? Should you pick your best worker always? And how do you help your new supervisor once you name him? As a psychologist, Dr. Moffie has specialized in employer-employee relations. He headed the psychology department of North Carolina State College prior to accepting last year an appointment as vice-president in charge of industrial relations at Hanes Hosiery Mills, Winston-Salem, N. C. In the following paper, presented at a November meeting of the North Carolina-Virginia Division of the Southern Textile Association at Cooleemee, N. C., Dr. Moffie reviews the qualities a good supervisor will have and calls attention to the role management must play in developing these qualities.

I am more convinced than ever that the real area of application of management psychology in industry is at the supervisory level. The supervisor is the one who has the burden of responsibility. He takes the brunt of mismanagement. He is the shock absorber in employer-employee relations.

Being a psychologist and concerned with employer-employee relations and how they might be bettered, I am sure that management must take leadership in placing the proper emphasis on supervision. And it must take leadership in an offensive and not defensive manner.

Don't you think that is also true in terms of our personal relationship with people in our plants? We have to be on the offensive, we have to take leadership. If we don't take it, the organized groups will take over and force us into the position we should have taken in the first place.

Getting to the question, "What qualities make a good supervisor?", that is the $64,000 question. I have often asked our supervisors and some of our foremen this question: "What do you think is the major phase of your work? What do you have to do day after day?" One after another of them has told me that well over 50 per cent of his work has to do with people—working with them, trying to solve their problems.

I think you, too, will agree that a large percentage of your day-to-day work has to do with working with people.

When we look at it, what does working with people actually mean? In our plant we know exactly what the efficiency of our knitting machines is. In fact, we have it down to two decimal points. We know exactly the qualities of our product. We know all that in the minutest detail. But when it comes to people, what do we know about them?

I saw a magazine article several months ago that contained the report of a panel discussion on the necessary qualities of a good supervisor. The panel, composed of mill men, tried to point out the qualities that make a good supervisor. The first item listed was a pleasant, forceful personality. Why is that a prime quality? Because the supervisor has to be able to work well with people—with employees under his supervision, with other supervisors and with his superiors.

The second quality listed was ambition. By this the panel meant each supervisor must have a goal in life; he must have a desire to progress in his job; he must have a feeling for achievement.

The third quality listed was a desire to experiment and make improvements. This means the supervisor must have an open mind. He must not be afraid to try something new. I believe if I were to put in a nutshell what I think is one of the most difficult problems in industry, it would be how to get people to realize that it might be worthwhile to try something new and that in the final analysis you are not going to upset the apple cart. Trying something new is progress. This resistance to change is something we are all faced with to some extent. Basically, what lies behind it is fear. A good supervisor has to get over this fear. He has to change. He has to make improvements. He has to keep learning.

Good moral character was listed as the fourth quality necessary in a good supervisor. Others were technical knowledge, practical experience, a liking for people, ability to train people, ability to delegate responsibility, ability to follow up, ability to get results through other people, faith and confidence in himself, a liking for his work and his industry, and enthusiasm. One last qualification is that he must have an understanding family.

All that adds up almost to a superman, doesn't it? Summing it up, I think it amounts to good technical knowledge and the ability to get along with people. How can we achieve these goals? How can you, as a supervisor, be more like what you ought to be? And if you are a superintendent, what can you do to help your supervisors attain these qualities?

After working in this field for a while, I am of the opinion that the first thing necessary is the selection of the right person for the job. It must be remembered that there are some people who will become good supervisors—they have what it takes. Other people will never make good supervisors. So we have to be sure that we have the right person to do the job of supervision. You have the same problem in your skilled jobs.

In choosing your supervisor, you should know his job record, not only with your company but his experience in jobs elsewhere. If any of you are using psychological tests you can get much help in evaluating potential supervisors from such forms.

In addition to that, every supervisor must be trained. You wouldn't think of putting a man on a technical job without giving him some training, and people must be trained to work with other people the same as they must be trained to work with machines.

I think one of the biggest troubles in our industry is that

we determine who is the best worker, who is doing the best job in his day-to-day work, and we make him a supervisor. We don't give him training, and we don't follow up. Being a supervisor involves skills, and these skills must be developed. Making a good supervisor is not just a matter of selection, not just a matter of putting a good worker on a supervisory job, but one of giving him effective training.

What is this training? There are many kinds. There are many courses. Personally, I don't think you can overtrain him, because he is the key man. He is the man that represents the employer to people; he is the man that represents top management; he is the man who can catch a fire when it is small and put it out. A lot of the courses now being given in industry are courses in human relations. I have just finished one in our plant, and I would say it gets down to the understanding of people. It is through such information that these people will learn to understand other people better.

The Right Climate

That still is not the end of this whole business. It seems to me that management, top management, must also set the right kind of climate within the organization so that we encourage and bring about proper supervision. On that point, I'd like to mention a few things.

A very interesting study was done not too long ago on the subject of who is to blame when a foreman fails in his job. This study was made out in the Midwest and involved about 200 plants. When management was asked the question, 78 per cent said the foreman could not become management-minded. Seventy per cent said he failed to get the workers more cost conscious. Thirty-seven per cent said such failings were due to inferiority feelings, temperament problems. Twenty-six per cent said lack of co-operation with fellow supervisors. Twenty-six per cent said he failed to interpret management directives in terms the workers could understand. Twenty-two per cent said the foreman failed to get workers to co-operate with each other.

What did the foremen think? Eighty per cent said management failed to keep foremen properly informed because of an inadequate communications system from the top to the foremen. Sixty-eight per cent said that management fails to praise when praise is warranted. Thirty-eight per cent said the failure was brought on by the foreman's classifying employees as a group rather than as individuals. Thirty-four per cent said failure was caused by management's assigning technically qualified men to leadership jobs without giving consideration to their personality and temperamental weaknesses. Twenty-two per cent said that foremen fail when they are talked down to rather than brought up on plant matters.

This study very definitely shows that not only must we select and train the right kind of foreman, but we also have to establish the right kind of climate in his department so that he can be developed into the kind of foreman we want him to be.

I ran across another very interesting study recently which shows the importance of communications, and shows how we can make our foremen management-minded. This study was done by a large group of industries. It was found that where good communications exist from the top to the bottom the percentage of workers who fell into the high job satisfaction category was about 77. In the typical firm

that had average communications, only 52 per cent fell into the high satisfaction category.

Is the best worker one who is satisfied, or are we going to get the best work out of one who is not satisfied? I think the answer is that we don't want him to be too satisfied, because he will do only the routine required of him. On the other hand, we don't want him to go around on his job day after day with a great deal of dissatisfaction especially or unhealthy dissatisfaction. So an important objective is to heighten his feeling of job satisfaction.

In this same study, about 50 firms were classified into two categories—groups with good communications programs and groups in which communications were poor. In the first group, there were no work stoppages in 62 per cent of the firms. In the poor communications group, only 44 per cent had no work stoppages. In other words, 18 per cent more of the firms with poor communications programs had work stoppages than did those with good programs. Only 24 per cent of the firms with good communications programs had had major strikes since the war in Korea, whereas 42 per cent of the poor communications group had had major strikes. As to minor work stoppages, the figures were seven per cent for the group with good communications and 14 per cent for the poor communications group.

What does all this mean? It means that if we have good communications all the way down the line we are going to have fewer work stoppages and fewer work difficulties.

This also works in with making our foremen more management-minded. As individuals we do not differ. We are all the same. We want to be part of the team. We want to be in on setting up new policies and new methods. But how can you make a foreman feel that he is part of the picture, a member of the team, unless you bring him into the game?

Machinery for Non-Woven Textiles

By JOHN H. SENIOR, Proctor & Schwartz Inc., Philadelphia, Pa.

This new and rapidly growing branch of the textile industry has doubled its output every three years for the last 15 years, and is now producing at the rate of more than 150 million yards annually. Equipment used to produce non-woven fabrics was described by Mr. Senior at the meeting of the Textile Section, American Society of Mechanical Engineers, last month in New York City.

JUST what are non-woven fabrics and wherein do they differ from the regular woven materials? As the words imply, these products are not made from spun yarns, nor are they woven on any loom. They are made in a relatively simple series of processes; the opening of the fibers, the making of the blend, carding the stock, making it into a web or batt, bonding this together, then drying and finishing the material.

This field has recently grown by leaps and bounds and any list which I could give you today would be only a partial one. These products go into laminates for gear blanks, bobbin heads, cams, etc; into backing materials for many plastic coated products. They also go into wrapping and baggings fabrics and into filters of many kinds—including tea bags. They are used to make polishing and wiping cloths and in casket liners. Felts and paddings are in widespread use; also insulation and packaging materials of many kinds.

For household usage, many disposable items have been developed such as diapers, bibs and aprons. Non-wovens go into napkins, tablecloths, draperies, towels and dishcloths and other similar products. In recent years, a great deal of additional yardage has gone into the apparel trades, particularly for linings and interlinings, for plumpers, tapes and shoulder pads. Non-wovens also have gone into upholstering materials, luggage, shoes and a host of other products.

The machinery and methods used in making these materials are as varied as the products they make, and you can well understand that no single line of machinery will make all of these products.

To begin with, the raw materials used are also as many and varied as are the products and the equipment. Cotton, rayon, jute and glass fiber have been very widely used. More recently other fibers like nylon, acetate, Orlon, Dacron, Dynel, Acrilan, Saran, asbestos and hair of several kinds have also been used.

In a line of products where longer staple lengths are not quite so important as in yarn making, you can well imagine that large quantities of shorter textile fibers like linters, noils, garnetted stock and other waste materials are being used, either alone or blended with one another, or with some new fiber mixed in. These blends help to get the cost down, without making too much change in the quality.

So you have to consider, in this field, several lines of textile equipment. These comprise the following: (1) reprocessing equipment for textile waste materials; (2) blending units, to mix together the component materials evenly; (3) carding or garnetting equipment to open up the mixture; (4) final carding, garnetting or spreading to make the mat; (5) equipment suitable for laying the fibers in the best array; (6) bonding equipment to apply the binding agent to the mat; and (7) drying, curing or vulcanizing the mat or the fabric; (8) Finishing operations on the final product.

First, *the reprocessing machinery*. These units constitute a fairly wide range of different pieces of equipment, each designed to get the best fibers out of the original waste. There are several types of pickers available, to suit different raw stocks; also shredding machines for such waste as can be opened better on this type of machine, rather than on a picker. Still other types of waste materials can be handled best on a combination of picking and shredding. Some of them need a dusting or cleaning operation and a great many wastes are garnetted before going to the actual maker of the non-woven product.

The second field is *blending*. It goes without saying that

any mixture of several fibers should be blended together with a careful evening action, no matter what is going to be done with the mixture. Because blends for non-wovens are not generally as high-priced as those used for spinning, is no reason for slighting this part of the process. If the final non-woven is to be uniform and if it is to be made from a mixture, a good blending apparatus is a "must." A blending unit of the type which uses a series of weighing feeders to proportion the mix is preferable. This is followed by a conveyor on which we build up the sandwich layers, then follows a good blending picker, to mix the materials together and get them ready for the following operations.

Third, the *preliminary carding* or *garnetting*. In some of the older processes for non-wovens, only one carding job was done, though this was usually preceded by a lap-making operation. Later installations have proved that most non-woven products can be made better, with less labor cost, if the carding (or garnetting) is done in a duplex or double carding process, usually in a tandem arrangement, connected together by an automatic intermediate feed.

Most plants now agree that a garnett machine is the most satisfactory, all-around carding machine for the first unit. This preliminary garnett could be used to make up laps for other garnetts, or for cotton cards, woolen cards, Rando-webbers, spreaders or other machines which will make the final web. This preliminary garnett may also be equipped with an intermediate feed to lay its product directly upon the feed table of the finishing machine, so as to give an even feed all the way across the face of the final machine. In this kind of set-up, the final machine may be as wide as 100 inches and could be wider if required.

Fourth, the *final carding* machine might be a cotton or wool carding machine, a garnett machine, a spreader or a Rando-webber. Its function is to take the stock as it comes from the previous machine, either by an intermediate feed as described above, or by a lap feed, also mentioned before, or by another hopper feed, if this is preferable.

No matter what equipment is used, the intermediate process should supply an even flow of stock to the finisher machine, both width-wise and length-wise, for the reason that the uniformity of the final delivered web is dependent entirely on the evenness of the stock going to the feed rolls. The crosslaid feeds have proved to be the most uniform in this respect.

Fifth, the kind of apparatus used at the discharge side of the final machine will determine the *fiber array* in the finished sheet. The oldest non-woven products, wool felt, take a web from one card, straight out from the doffer, to an accumulator apron, then they cross-lay on top of this a web from another card to make up a laminated web arrangement, which builds up on the accumulator apron as many layers as are needed for the thickness required. A more simplified arrangement of this lapping arrangement, using a single garnett machine, is the one you may have seen at Avisco's textile research center at Marcus Hook, Pa., for making experimental non-wovens.

Other non-wovens are made on a series of cards or garnetts set in tandem, with the webs as they come from the doffers drawn straight downward and laid, one web on top of the other, to build up the desired thickness. This type of lay-up tends to give these non-woven materials considerably more strength in the length-wise direction, as

compared with that across the web. For some types of product this may be desirable.

The discharge arrangements which have been getting a great deal of attention in recent months, are those which take the final, well-carded fibers and deposit them evenly on the conveyor which follows. They are laid on this conveyor in an isotropic or un-oriented arrangement. There are several of these air-transfer devices, some of them covered by patents, but all of them are designed to give the random arrangement of fiber in the final sheet, which fiber-array serves best in some products.

Sixth, the *bonding apparatus*. Here we come to a point where we encounter a great deal of variation. The binders now available come in a wide array of resinous and other chemical materials, also in very general use are latices in natural, synthetic, reclaimed and other types. Starches, casein, glues and other adhesives are also used.

You can well understand that as the bonding agent may be any one of several types, so also is the apparatus which is used to apply this binder to the non-woven web which it is to hold together. The machines used for this purpose are usually spray units, either wet or dry, dip tanks, padders, wet rolls or similar units. Some binders are applied all over, heavily or lightly. Others are printed on in lines and many are dipped right into the binder solution.

There are some non-woven fabrics put together with thermoplastic fibers blended in the mix. After the carded webs of these come from the final garnett machine, they are passed through a pair of heated rolls which soften the thermoplastics. When the web comes out of the rolls, it cools and becomes bonded together and little or no further operations are needed, other than trimming and rolling up.

Seventh, the *drying or heating operation* which follows the bonding is naturally designed to match the equipment and the method used for applying the bonding agent. Where a thermoplastic fiber binder is used, the hot rolls mentioned before do the job. With a dry binder blown into the mix, as is done sometimes, a heating oven is used to raise the temperature of the mass to the melting point of the binder. Following this, the material is cooled and is usually pressed to get it down to the thickness and density required. As it comes out of this process, it is ready to trim and roll up.

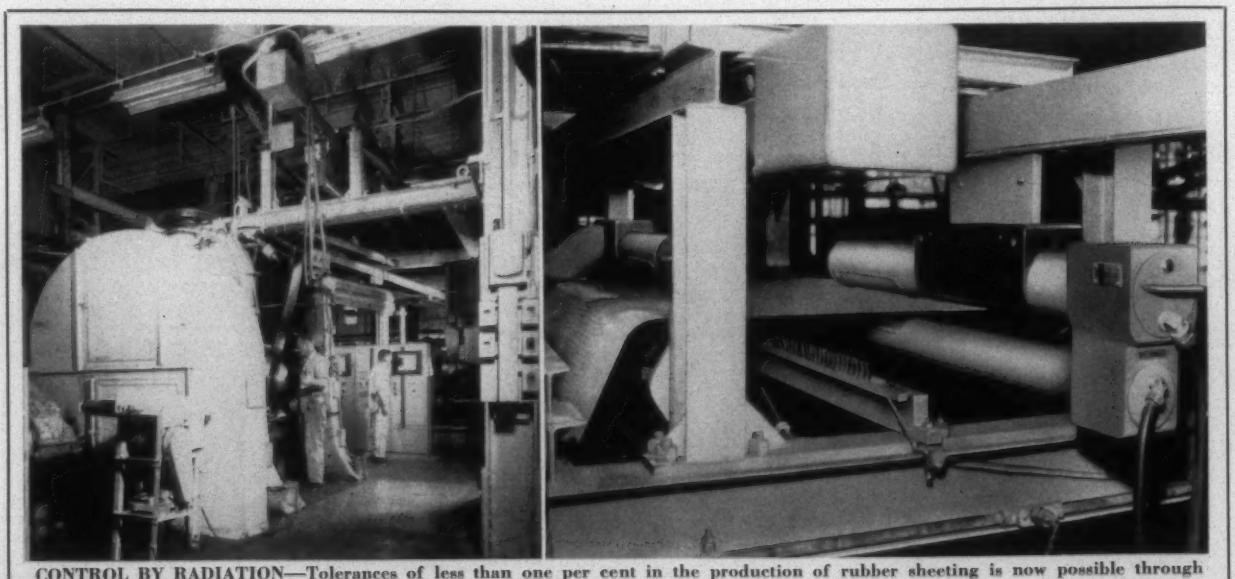
With such binders as are put on wet, a drying machine of one kind or another is needed to evaporate the moisture or the solvent. Air circulation dryers of the horizontal, multiple conveyor type are preferred in some plants, but it is important that they be designed to prevent any migration of the binder.

For many materials, non-woven plants use the multiple-can type of dryer, especially for thin, smooth types of fabric. These drying and heating units are closely tied in with the character of product and this leads us to the final step.

Eighth, the *finishing operations*. It will be understood that the finished surface of any non-woven material will be of considerable importance, especially where the material is to be sold to the housewife or to the cutting-up trades. For this reason, the type of drying or heating units must be selected with care, so that the final product may have the kind of hard or soft finish with the drape or hand that the customer prefers. The proportion of fiber to binding agent has a good deal to do with some of these requirements. Texture, porosity or density can be so regulated.

As some of these non-woven fabrics will compete with existing woven materials, the finishing equipment will need careful attention. Procedures that were used on woven fabrics may not be exactly right for a bonded, non-woven fabric, so new techniques may have to be developed in some cases. These considerations apply not only to the surface-finishing, but also to the dyeing of the fabric and also printing or other processes.

Aside from these details, all that remains to get the product ready for shipment, are such operations as calendaring, trimming to width, cutting to length and folding or rolling up for shipment.



CONTROL BY RADIATION—Tolerances of less than one per cent in the production of rubber sheeting is now possible through use of a new and improved Betameter, installed by Isotope Products on these tandem calenders of the Los Angeles plant of The Goodyear Tire & Rubber Co. Beta rays passing through rubberized fabric are measured, permitting extremely uniform coating of tire cord. A set of Betameter measuring heads may be seen above the calender, between the two uprights.

In close-up *at right*, rubberized fabric passes between radiation and ionization detection chambers. Automatic control of the rubber coating process is achieved without contacting the fabric itself. Beta rays passing upwards through the rubber are intercepted by the detection chamber and converted into electrical signals in keeping with heaviness or thickness of the rubber sheeting. The device permits adherence to close tolerances during production phases, resulting in more uniform tire fabric.

In Statistical Quality Control, Which Shall It Be? FREQUENCY DISTRIBUTION . . . STANDARD DEVIATION . . . AVERAGE AND RANGE

By FRANK VOGEL, Consultant on Statistical Quality Control, Pawtucket, R. I.

Is there any choice among the three methods? Is any one simpler and more practical than the others? Can one be applied better to certain characteristics than the other two? In other words, which method will give the best results with the least expenditure of time and money?

CERTAIN thoughts go through the minds of plant personnel who are getting acquainted with statistical quality control methods. Taking simplicity as the starting point, the writer would line up the methods in this way: (1) Frequency Distribution; (2) Average and Range; and (3) Standard Deviation.

Frequency Distribution is the simplest because it is easily established, requires little clerical work, and has no mathematical calculations involved. Average and Range does require more clerical work, but the arithmetic that goes along with it requires no knowledge of mathematics other than that acquired in the elementary school grades.

A bit more difficulty is presented by Standard Deviation because of the square root involved, and this fact bothers the average foreman and supervisor enough so that the use of this method by the regular mill executive staff is questionable.

Since this article is written primarily for that great group of operating executives (foremen and supervisors, who can make or break a company) who are closest to the employees, emphasis is placed more on the method that will enable them to get desired results with the minimum of time, effort and money.

With this thought in mind, the second phase—practicality—can be taken up. This time the methods are lined up somewhat differently: (1) Average and Range; (2) Frequency Distribution; and (3) Standard Deviation.

The foregoing set-up is based on the writer's experience in acquainting groups of executive personnel with the practical application of statistical quality control methods. In no way is it intended to suggest that some other arrangement may not be better suited for some mills and some circumstances. Or, that for some specific purpose other methods might not be used to greater advantage—Percent Defect, etc.

If it is desired to watch each individual sizing of a spinning yarn, the frequency distribution is a good method to use, and may give all the control that is necessary.

From the tabulation of consecutive sizings of 9s, single cotton yarn, Table I, a frequency distribution may be sufficient for the foreman to keep in touch with the sizing situation.

TABLE I

CONSECUTIVE SIZINGS OF 9S SINGLE, COTTON YARN—LEFT TO RIGHT

8.70,	8.60,	9.20,	9.30,	9.10,	8.90,	9.20,
9.40,	10.10,	9.70,	9.30,	9.40,	9.80,	9.40,
9.40,	9.10,	9.10,	8.90,	9.10,	8.90,	8.90,
8.90,	8.70,	8.80,	9.30,	9.30,	8.60,	9.20,
9.30,	9.30,	9.20,	8.90,	9.40,	9.30,	9.40,
9.20,	9.30,	8.90,	8.70,	8.90,	9.30,	9.10,
8.80,	8.80,	8.90,	8.90,	9.00,	9.00,	9.20,
9.10						

Fig. 1 shows the summation for the frequency distribution of the 50 sizings tabulated under Table I. For lack of space the usual charting of the individual sizings has been omitted. However, from the summation column, it will be seen that the sizing picture is a bit skew, but since the sizings were made under humidity controlled conditions by an experienced yarn sizer, the picture cannot be changed.

The mill control tolerance lines can be drawn to see how the majority of the sizings conform to them. Where there are no mill standards tentative limits may be set by observation. Some years ago the writer set limits in this manner for a certain characteristic and they served the purpose very well for many years.

A glance at the yarn sizings intervals, Fig. 1, shows that they progress in widths of 0.2 of a yarn number. Now, since some of the sizings end in uneven numbers, these have been stepped up to the next even number. To illustrate, let's take the top interval, 10.2. This sizing was originally 10.1 in the tabulation, Table I.

Sometimes the spread of a large number of units in a frequency distribution is so great that the central tendency of the testings is obscured. This condition can be remedied by making the widths of the intervals wider.

Although the frequency distribution in Fig. 1 shows the central tendency at 9.2 (the actual average is 9.18), the effect of widening the intervals may be seen in Fig. 2 where

the intervals have been made 0.5 of a yarn number. Here the central tendency 9.0, shows up much more clearly than in Fig. 1. The average size in Fig. 2 is 9.15, which is almost the same as the 9.18 average in Fig. 1.

Fig. 1

Intervals Yarn Sizes	Summation Frequency Distribution
10.2	1
9.8	2
9.4	15
9.2	12
9.0	12
8.8	6
8.6	2

Fig. 2

Intervals Yarn Sizes	Summation Frequency Distribution
10.0	2
9.5	16
9.0	27
8.5	5

It can thus be seen that the change from an interval of 0.2 to 0.5 makes it easier to note the central tendency without appreciable change in the actual average.

Sometimes it is desired to use the frequency distribution as a daily gauge, and the frequencies can then be arranged in daily groups as in Fig. 3 where the results of five sizings per day are shown. Furthermore, sizings from each individual spinning frame can also be shown in this manner.

The advantages of the frequency distribution method may be enumerated as follows: simplicity, ease of starting, immediate knowledge of the position of each sizing, etc. At certain periods, say weekly, a summation of the distribution may be made, as indicated in Fig. 3.

Fig. 3

Intervals Yarn Sizes	Mon.	Tues.	etc.	Summation Frequency Distribution 5 Day Week
10.2	0	1		1
10.0	0	0		0
9.8	0	1		2
9.6	0	0		0
9.4	1	1		7
9.2	2	1		6
9.0	0	1		5
8.8	1	0		3
8.6	1	0		1

At this point, let's tie in the standard deviation to the frequency distribution. Returning to the original distribution, Fig. 1, it is found that the average yarn number is 9.18. (The slight discrepancy between 9.18 and the average 9.12 of the original tabulation of 50 sizings is due to the intervals of 0.2 in the frequency distribution.) The standard deviation is 0.30. Calculation of Standard Deviation has been purposely omitted.

For the wider spaced intervals the standard deviation is 0.35. Therefore, while the interval of 0.5 gives a more compact picture than the 0.2 interval and brings out the central tendency more clearly, it actually shows a greater variation—again, no doubt, due to interval change from 0.2 to 0.5.

Some authorities feel that the standard deviation is a better measure of the dispersion of a distribution than the percentage of variation. This percentage is calculated as follows:

The lowest sizing is subtracted from the highest and the difference is divided by the average sizing. The formula is

$$\frac{\text{Highest} - \text{Lowest}}{\text{Average Sizing}}$$

Thus, for the 50 sizings in Table I, the percentage of variation would be $\frac{10.1 - 8.6}{9.12} = 16.45\ \%$.

We now come to the Average and Range method, one to

which the writer is quite partial because of its comparative simplicity, and the ease with which members of groups studying statistical quality control acquire the ability to use it in textiles.

Let's start off with ten groups of five sizings each. These sizings are taken from Table I. For characteristics such as the one we have here—cotton yarn sizings—this number of sizings will ordinarily give a good picture of the trend of the sizings, and the degree of variation in the yarn. It will enable control to be started promptly, and obviously, it is always desirable to speedily bring within control limits the characteristic we intend watching.

Since the question arises sooner or later as to how many groups of what number of units each would be the most economical to take, the writer would suggest starting off with the foregoing, i.e., ten groups of five sizings each. Fig. 4 shows the first three groups, of five sizings each, taken from Table I.

Fig. 4

Group	1	2	3	etc.
	8.70	8.90	9.30	
	8.60	9.20	9.40	
	9.20	9.40	9.80	
	9.30	10.10	9.40	
	9.10	9.70	9.40	
Total	44.90	47.30	47.30	
Avg.	8.98	9.46	9.46	
Range	0.70	1.20	0.50	

However, if, say, two further successive series of 50 sizings are made, with approximately similar results, it can be assumed that with conditions remaining the same, the sizings will continue within practically the same confines.

Now, having decided, let's say, that the sizings are satisfactory if they can be held within the range already obtained, a reduction to four or even three units per group can be tried out. Should the reduced number continue to give sufficient control they can be made standard and carried on until indications appear that the sizings may get out of bounds, whereupon the five units per group can be restored again.

From the foregoing comments it may be inferred that of the three methods under review, the Frequency Distribution is the simplest, is easy to install, easy to follow; the Average and Range is quite simple, and is very reliable as a guide to performance; the Standard Deviation is somewhat difficult for the average foreman and supervisor.

Although cotton yarn size is the characteristic concerned in this article, the writer would recommend that other characteristics which will show quicker results from the application of statistical quality control be taken first. A few among these are: waste, faults, productions, net weights of bobbins, beams, packages, yardages of different types of packages, and so on, almost ad infinitum.

The mayor of Los Angeles, Calif., has appointed a special committee for the development of the textile and apparel industry in the Los Angeles area. According to the chairman of the committee, more than a dozen leading textile firms in the South and East are interested in locating a part or all of their operations in Southern California. At present the committee is undertaking a comprehensive survey of conditions and opportunities in the area, and survey results will be made available to the interested firms. The survey is being financed by the city of Los Angeles, the Los Angeles Chamber of Commerce and the Los Angeles Department of Water and Power.

A New Look at Loom Assignments

By THOMAS F. O'CONNOR, A.S.M.E., Management Consultant, Greenville, S. C.

In considering how many looms to assign to one weaver, the paramount aim naturally is to obtain the best result possible for the business as a whole. The "best result" is an elastic term, meaning many things to many people. What it means in any particular case will depend on the circumstances, as in the following instances.

QUALITY may be of such importance that what would otherwise be considered too low a workload may become obligatory in order that the weaver may have ample time for patrolling and inspecting. The fact that a low operator workload encourages a high machine efficiency is also an advantage, since goods of high quality usually provide an attractive profit margin.

Or skilled labor may be so scarce that maximum operator utilization may override other considerations, even machine efficiency. A fall-off in demand, resulting in machines being idle, would lead to the same sort of conclusion.

There are still other circumstances calling for special thought, but the present article is concerned not with any of the above facets of this problem of loom assignments, but with one which is more often met than all the others together. It is the following—there is a mill with all utilities and a full complement of looms in running order; there is a good pool of skilled labor; the product is in steady demand at a steady price at which the market will absorb all the mill can produce. The problem then is simply this—what assignment will so balance the cost of labor and the loss of potential production through interference as to result in the maximum amount of profit? Incidentally, it will be seen that the proposed solution automatically calls for high machine efficiency for high profit goods and vice versa.

The principle used is quite simple. You first select any assignment for examination, and, in a way which will be shown, estimate the probable level of productivity. Multiply the number of units produced per hour by the value of a unit (this term also needs explanation, which will be found on Page 81). Now you have the hourly income associated with this assignment. From the income, deduct the weaver's wages and the remainder is the gross margin arising out of one hour's work by a weaver with this assignment. Inasmuch as the weaver's assignment and his productivity are variables in the problem, this gross margin in itself is not the criterion needed. It has to be related to a fixed basis, and this is provided by the loom hour. Therefore, the next step is to divide the gross margin by the number of looms in the assignment, thus arriving at the gross margin per machine hour, denoted by GMMH for brevity. This is the criterion.

Take another assignment and examine it in the same way, arriving at another level of GMMH for this possible task, and proceed in this way until the pattern is clear. It will be found that, as the assignment is increasd, the GMMH will increase also at first, but it will shortly reach a point of changeover, after which it will start to dwindle. The turnover point indicates the assignment which is the best from the profit standpoint.

Residual Productivity

The method outlined above requires estimates of the probable productivity under various conditions of operator loading. I have already published information showing how these estimates may be obtained, but for those who may not have seen that information, I will give a brief recapitulation.

Ashcroft, a British mathematician, at my instigation in 1948 investigated the problem of multi-machine assignments mathematically, and devised a formula which is capable of giving forecasts of what the average results are likely to be in any given situation. As the formula is not an easy one for the average industrial engineer to manipulate, tables have been built on it for ready reference. These tables list values of the residual productivity factor, symbol A. The factor A is an index, not of interference, but of the more useful statistic residual productivity, that is to say the productivity to be expected after attention, time and interference have taken their toll. If it is necessary to know the amount of the loss due to interference, it can be readily calculated from A as will be shown.

To use the tables, of which a specimen section is shown, it is only necessary to have the assignment, N, and the cycle ratio, p. The latter has two components, t and T; t is the time the weaver spends on one loom in consequence of its stops during the time required to produce one unit—for example a certain length of cloth. During the same time, the loom actually runs for a time T. Divide t by T to get the cycle ratio, p. Very commonly the unit of product is the amount the loom would make in a 60-minute run. Then, with t in minutes also, the cycle ratio is t/60.

Since the stops occur at random, both t and T normally are made up of a number of smaller intervals of time, but this makes no difference. Just add the parts together to get the totals. One very important point is to make no attempt to include in t any allowance for interference. There are special rules regarding internal work, but in the simple example to be discussed there is external work only, so it is not necessary to complicate matters by mentioning them; t,

therefore, is weaver's worktime only, with no interference added, and with no internal work.

Now, having N and p, it is easy to extract from the tables the corresponding value of A, the factor of probable average residual productivity. For example, with $p = .074$ and $N = 10$, the tables give $A = 8.647$, the required factor for these conditions. It is the all-important factor in calculations on multi-machine work. There are two or three ways of describing or defining A, all amounting to the same thing. You could say it is the average number of machines running out of the N in one operator's care; or you could say it is the average number of machine running hours obtained by one operator from his assignment of machines in one clock hour. Again, to say that A is 8.647 is the same thing as to say that from these ten machines in one hour, you are entitled to expect the same amount of production as you would get from one of them if you could keep it running non-stop for 8.647 hours.

Having found the value of A, other information can now be deduced. The cycle time, symbol H, is given by the expression

$$H = \frac{N \times T}{A}$$

i.e., 10 multiplied by 60 and divided by 8.647. The answer is 69.5, meaning that when all three types of time spells—waiting time, operator attention time, and machine running time—have been added to make the complete cycle, it is found that a machine run of 60 minutes takes 69.5 minutes by the clock. Efficiency, therefore, is 86.4 per cent (60 divided by 69.5). If you want an estimate of the interference loss, take from the cycle time (69.5) the sum of T and t. T is 60 minutes, and t is .074 hour which amounts to 4.44 minutes, making a total of 64.44. Then interference, by difference, is 5.06 minutes, greater incidentally than the time the weaver spends on the stopped loom when he is free to attend to it. The weaver is busy on stoppages for a fraction ($p \times A$) of each hour, that is about .64 hour. And that clears up about all that it is necessary to say by way of preparation, except for one minor point. That is the manner of dealing with cycle ratios which are not listed. When a value of A is required for a cycle ratio which falls between two listed ratios, simple linear interpolation is used. The situation does not occur in the problem I am coming to, therefore it is not necessary to say more.

Solving the Problem

The problem arose as the sequel to an investigation into the use of certain auxiliary labor about the looms. The investigation had revealed that, keeping the total labor bill unchanged, it would be more productive and more profitable to hire the full money's worth of weaver time, and not use auxiliaries at all. The question was then naturally asked whether the existing total labor bill was the correct amount to spend on weavers, bearing in mind all the circumstances and the mill objective of maximum profit out of the existing facilities. Was it high enough—that is, should assignments perhaps be reduced? Was it too high—that is, should assignments perhaps be increased?

In this case, t was found to be 4.5 minutes, with T 60

minutes, so that p was .075. The assignment indicated by the existing labor payroll was 13 looms per weaver; p.p.m. were 120, p.p.i. were 40, so that production at 100 per cent would be five yards per hour. The value, in the sense already defined, was 15 cents per yard, or 75 cents per hour. Prior to the recent award when these investigations were carried out, the weaver's hourly wage was $1.40. Now we are ready to go.

For $p = .075$, and $N = 13$, A is seen to be 10.612, representing a value of $7.96 (equals 10.612 × .75). Deducting wages of $1.40 leaves a gross margin $6.56 per weaver hour. Dividing $6.56 by the number of machines assigned (13) shows a gross margin per machine hour (GMMH) of .505 dollar.

Next, tackle another assignment, say $N = 14$. There will be a very small increase in walk time, but it will be so insignificant that it can be ignored. Therefore p remains at .075. A comes out at 11.164, representing a value of $8.36. Wages are unchanged at $1.40, therefore the gross margin is $6.96, and the GMMH is .497 dollar (equals $6.96 divided by 14). This is already less than it was at $N = 13$, so it is evidently vain to look at higher assignments still. Lower assignments were figured and the whole series of results is shown below.

N	9	10	11	12	13	14	
A	7.864	8.619	9.333	10.000	10.612	11.164	
VALUE	5.90	6.46	7.00	7.50	7.96	8.36	Wages
G.M.	4.50	5.06	5.60	6.10	6.56	6.96	$1.40
G.M.M.H.	.500	.506	.509	.508	.505	.497	per hour.

The best assignment, profitwise, is $N = 11$, but the "edge" is narrow; 10, 11 or 12 could be adopted without any marked difference being detected. However, it is plain that the rule should be to assign less than 13 rather than more.

The next interesting question is, how is the result affected by the recent wage raise of ten cents an hour? As might be expected, not a great deal. Also, as expected, what little change there is goes in the direction of a slightly higher assignment. As the weaver's cost mounts relative to that of the machine, other things, such as unit value, remaining equal, it is natural to expect that fuller utilization of the weaver's time will be indicated. And that is what the figures reveal. Here they are:

							Wages
N	9	10	11	12	13	14	$1.50
G.M.M.H.	.489	.496	.500	.500	.497	.490	per hour.

Now it is a matter of no consequence whether 11 or 12 is used as the assignment, and 13 would be a better substitute than 10. All GMMHs are reduced as compared with the previous amounts. They could be restored to their former state if the ten-cent raise was passed on to the consumer, and in such a case $N = 11$ would once again be the optimum assignment.

Conclusion

The foregoing illustrates the application of the O'Connor method to one of the bread and butter problems of the industry. A simple case has been selected in order to make the principles clear, but more complicated cases present very little more difficulty. The method obviates experimentation, which is time consuming, costly and uncertain, and substitutes, as shown above, some easy arithmetic.

Assignment for Maximum Profit

The best assignment (N machines per operator) is the one which shows the greatest gross margin per machine hour, denoted by *GMMH*.

GMMH = [INCOME — WAGES] divided by N.

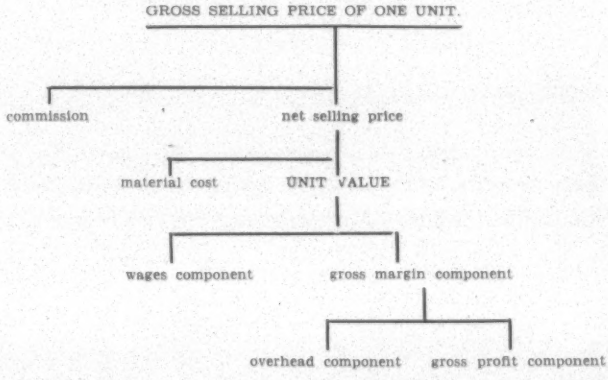
WAGES means the hourly wages of the operator under consideration.

INCOME means the net income from sale of product per operator hour. Therefore, income = number of units produced per operator hour (with N machines) multiplied by unit value.

UNIT VALUE = net selling price per unit minus sum of all costs which are constant per unit produced (mainly material).

NUMBER OF UNITS produced per operator hour—obtain from tables.

Derivation of Unit Value



OVERHEAD: typical items covered by this cost classification are:

Loan interest	Rent, taxes and insurance
General services	Power and maintenance
Administration	Sales and market research
Licenses on patents	Research and development
Welfare	Indirect labor

All direct labor other than the operator considered above.

GROSS PROFIT: typical items covered by this category are:

Federal taxes	Amortization
Fixed dividends	Dividends on ordinary stock
Bonus payments	Reserves

Gross profit per machine hour equals GMMH minus overhead per machine hour—the latter being constant or approximately so.

Section of Tables of Residual Productivity Factor, *A*, for Exponential Distribution

	Cycle Ratio p					
N	.073	.074	.075	.076	.077	.078
1	.932	.931	.930	.929	.929	.928
2	1.855	1.835	1.851	1.850	1.848	1.846
3	2.769	2.765	2.762	2.759	2.756	2.752
4	3.670	3.665	3.660	3.655	3.650	3.645
5	4.558	4.551	4.543	4.536	4.529	4.522
6	5.428	5.419	5.409	5.399	5.390	5.380
7	6.280	6.267	6.254	6.241	6.228	6.215
8	7.107	7.091	7.074	7.057	7.039	7.022
9	7.907	7.886	7.864	7.842	7.820	7.797
10	8.675	8.647	8.619	8.591	8.562	8.534
11	9.404	9.369	9.333	9.298	9.262	9.225
12	10.088	10.044	10.000	9.955	9.910	9.865
13	10.721	10.667	10.612	10.557	10.502	10.446
14	11.296	11.230	11.164	11.097	11.029	10.961
15	11.807	11.728	11.648	11.568	11.488	11.407

Georgia Mills Cite Slashing and Weaving Practices

By HARWELL HOWARD

This is a report of the discussions which took place during the first part of the Fall meeting of the Textile Operating Executives of Georgia. The maintenance discussion will be found elsewhere in this issue.

THE recent Textile Operating Executives of Georgia meeting drew a crowd that numbered above 280 as discussions got under way. General Chairman J. A. Fife, superintendent of Scottdale Mills, Scottdale, called for spontaneous open discussions and pretty soon lively shop talk ensued from the floor of the Harrison Hightower Textile Building on the Georgia Tech campus, Atlanta, Oct. 13.

The first discussion—on slashing—was led by Lloyd K. Williams, superintendent of Peerless Cotton Mills, Thomaston, Ga. Mills submitted answers to various questions on slashing and a summary of these answers follows:

The first question asked the operators about their experiences with controlling moisture in slashed yarn—including information about the methods of control they used, warps slashed, the kinds of dryers, and the moisture left in the yarn after drying.

Mill H went into some detail in describing the function of its moisture control instrument, saying that its moisture monitor continuously showed whether the yarn that was coming off was wet, normal or dry. This instrument is calibrated to show when the moisture content is 7.5 per cent plus or minus 0.6 per cent. By checking with this instrument, the mill has been able to reduce its use of steam. The mill reported that the instrument was very sensitive and stated that it indicated such unsatisfactory conditions as bad blankets resulting in wet spots or uneven size application.

Most of the mills answering this question were within about a percentage point of agreeing with Mill H on the moisture content left in yarn. Reports on this varied between 6½ and 8½ per cent, except for Mill D, where six per cent moisture is left in on heavier sleys (above 100) but seven per cent is left in on cotton. On spun rayon this mill tries to leave about ten per cent in.

Experience at Mill S, which uses six mechanical and two electronic-type moisture controls, has shown the approximate speeds the various styles will run and still keep the seven per cent moisture which the graph indicates. Although this mill operates with an instrument, the slasher tender is responsible for checking to see that the desired seven per cent moisture is maintained. Here 2,642 ends of 23s yarn is a typical style run. A conventional three-cylinder slasher is operated.

The second slashing question asked for experiences with Griffin size boxes—including their effect on loom efficiency and slasher production and also whether the mills were able to control per cent pick-up at a predetermined per cent.

Mill D said that on styles with less than 4,000 ends, weaving efficiency was .89 greater than it was on the same styles run in conventional boxes, and that slasher production was about the same. While this mill cannot set for predetermined amount of pick-up, it varies pressure from 20 pounds for average styles to 30 pounds for the greatest pick-up. The same amount of size was added at 20 pounds as the mill got at 40-pound pressure.

The Griffin size boxes on Mill K-1's hot air slasher have been very satisfactory; there has been less yarn rolling in the box and less difficulty with streaks of hard size when the slasher is halted. The per cent pick-up can be controlled with the pneumatically loaded dresser roller.

The next, or third, question on slashing called for the mill executives to compare their experiences with rubber-covered squeeze rolls and with wool-covered rolls in regard to the effect on size pick-up, especially on coarse yarn, the speed of drying, yarn sticking to the cylinders, shedding at slasher and/or looms, and weaving efficiency. The mills that made an over-all comparison of the two types differed as to which was the better. Mill B said the rubber-covered rolls dressed the yarn better and Mill K-1 agreed. But Mill F cast its vote for wool-covered rolls. Mill E was in the middle, judging the two types equally good. Another mill said briefly that it was using rubber rolls "with very good results" on its back rolls, but had only just begun using them on its finishing rolls.

As to the effect on size pick-up, at least five of the mills reported about the same effect. Mill B said "The size pick-up runs from seven to eight per cent on all warp counts with 300 p.s.i. applied to the squeeze rolls." Mill H noted that after it had buffed its rubber rolls, a higher size pick-up resulted than had existed with wool-covered rolls; also, greater size pick-up tended to result in slightly more shedding and sticking to the cylinders, but this mill believes that pneumatic pressure control could counteract this. Opinion from this mill is that synthetic rolls result in fewer stuck ends and more uniform application of size. At Mill M, pick-up with rubber rolls on front and back increased 28 per cent over wool blanket-covered rolls. Mill S reported picking up ten per cent on the yarn wound roll vs. 11.5 per cent on the rubber roll.

In regard to yarn sticking to cylinders, Mill F said that unless the slasher speed is reduced the yarn sticks to the cylinder—and the finer the yarn the greater the damage to it. Other mills reported no trouble with sticking.

Neither did shedding present any problem except at Mill B. At this mill, although its shedding problem has been cut 50 per cent with the use of a new size formula, the plant still has a shedding problem and believes that "as long as the industry is forced to use starch the problem will continue to exist."

Mill B reported a one per cent improvement in weaving efficiency but the other mills did not note any important difference in this regard.

The three answers to the next slashing question were brief and to the point. Asked about mill experiences with hydraulic or pneumatic presser rolls, Mill C said it had been very well satisfied with pneumatic lift and pressure

control and that it gave a more uniform warp and therefore greater weaving efficiency. Mill E said that it used hydraulic pressure squeeze rollers and felt that a more uniform size and less shed resulted. Mill K-1, using one slasher with a pneumatic presser roller, reported, "We find that we get a firmer beam and therefore more yards per loom without increasing the tension of the beam drive."

Six mills answered the next question about the results they were getting from using over-waxers on slashing. Mill A has discarded over-waxers in favor of putting wax in size. Mill M also reported discontinuing them, saying that the finished weight of the flat goods was greater and claiming the cost of the wax did not justify using it. Mill B likewise found over-waxers unsatisfactory and said, "We believe that through the use of proper size formula that over-waxers will not be needed." Mill D runs an over-waxer on sheeting but doesn't have any figures to show its effects, if any, on weaving efficiency. Mill F said that while its experience with them was limited, the plant had been able to reduce relative humidity by six per cent without harming the weaving, and this mill also noted that the looms were a little easier to clean and there was less shedding.

The next question "Why did you install multi-can dryers as against hot-air dryers or of hot-air dryers as against multi-can dryers?" elicited only three replies and the only really informative one was from Mill B. This mill said that it bought a multi-can dryer for the processing of synthetics. In view of the changes going on in the textile industry, this plant felt it would be wise to buy equipment capable of processing both synthetics and cottons. Also, the plant was informed that the multi-can dryer would use substantially less steam than a hot-air dryer would. "From the standpoint of production, quality and maintenance there was very little difference."

The next slashing question—on tying machines—was divided into two main parts. The first part asked the mill men about their experiences with portable tying machines which tie the full width of the warp at a single loading. The consensus seemed to be that this type of machine was doing an excellent job. Mill H said that it meant straighter warps and Mill L said that it meant better tied warps. Mill S, which has been using two 56-inch portable tying-in machines of this type for the last 18 months, is very well pleased with them now, but said that to begin with it had had a lot of trouble with re-ties. These re-ties were almost eliminated after the operator at this mill had learned to adjust the tension correctly and after the mill had mastered the correct warp preparation.

The second part of this question on tying machines was "Why do you use a portable machine in preference to a stationary machine?" Mill C has found portable machines better for the job because this mill has loom beams with 32-inch heads on 44-inch looms. When they are full, "these weigh 1,100/1,200 pounds and the patterns weigh 100 pounds and more. Both are difficult to handle on account of the weight. We also think that we get a straighter warp and fewer tangled drop wires. The reeds stay in line better by remaining on the loom." At Mill T, it is believed that the portable machine "saves on damage, wear and tear of harness, reeds, drop wires, warps, etc., since they are handled less." Mill E's experience with portable tying machines has been very satisfactory and the following reasons for discontinuing stationary machines were cited: far more expensive; have less damage to the patterns, harness, drop wires, reeds, etc.; have also reduced down time at warp out by half."

In answer to the next question as to the disadvantage which mills had experienced with 36 to 40-inch head warper beams, only one disadvantage was reported. Mill O said that in using 38-inch section beams, the yardage of one set is so large that too many loom beams are used up when a set is slashed. While this is no problem at a mill that runs only a few constructions, Mill O pointed out "a mill making many styles loses a certain amount of its flexibility by going to large diameter section beam heads." However, this mill concluded that "the many economies inherent in the use of large beam heads" far outweighs this disadvantage.

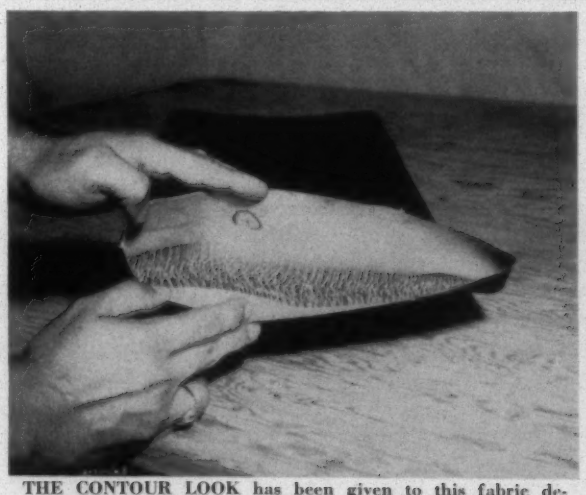
Weaving Questions and Answers

George D. Malone, assistant superintendent, Exposition Cotton Mills, Atlanta, led the discussion on the next set of questions dealing with weaving problems. The first of the questions concerned mill experiences in using nylon in place of fur and/or bristle in shuttles.

"What size or sizes of nylon do you use and for what filling counts?" was the first of four sub-questions under this general question.

About a third of the 15 answering mills reported unsatisfactory results from using nylon. One of these, Mill E, explained that its quality had been lowered "in that we had more mispicks and broken picks in the cloth with approximately one per cent more stops." And Mill R had not been completely satisfied with experiments with a few looms using .025-inch diameter nylon on 4/50/1 and 9/1 filling, and had discontinued using nylon.

Most of the other mills answering this question reported using test nylon in the 30 to 50-pound range. Mill D said that it had experimented with two different sizes, "the limp type, 20, 30 and 40-pound test," and "the four-inch cut type stiff nylon size .022." Filling count at this mill varied from 15s to 32s. At Mill K, using .032-gauge nylon, fill-



THE CONTOUR LOOK has been given to this fabric developed by engineers at Goodyear Aircraft Corp., Akron, Ohio. Looking to use Goodyear's Airmat material in helicopter and convertiplane rotor blades, the engineers needed to weave inflatable structures with airfoil contours. A typical Airmat structural member consists of two basic layers of high-strength cloth which are woven simultaneously with drop threads interconnecting the layers. Length of the drop threads determines the inflated contour of the section. After weaving, the basic cloths are coated and cover layers applied to obtain pressure-tight surfaces of the desired strength.

ing counts range from 8s through 30s. Mill G, reporting that most of its filling was coarse and required a lot of tension, said that it used size .045 nylon mostly. "However," this mill continued, "we sometimes use a smaller size nylon for finer filling. In other words, we use size .045 for filling running from 3.00 to 7.50. For finer numbers we use size .032."

The next of the sub-questions dealing with shuttle fur or bristle asked how nylon was put in the shuttle and whether fur or bristle was used with it. There were many divergent answers to the first part of this sub-question. Mill K, which is well pleased with the use of nylon and has completely eliminated using fur bristles in its shuttles, reported that a jig, made in the mill shop, is used for installing nylon in shuttles. When this jig has been fastened to the side of the shuttle, two holes are drilled about an inch apart at about a 45 degree angle from the side of the shuttle. "A loop of nylon is placed through these two holes and pegged in with regular bristle pegs. For looms equipped with center fork we use six loops of nylon (three on each side) and for looms equipped with side forks we use two loops of nylon (one on each side)." Nearly all of the answering mills that use nylon went along with this mill in saying they did not use either fur or bristle when they used nylon.

A third sub-question dealt with the advantages and disadvantages encountered at the mills in using nylon. There was a fairly even division of opinion among the answering mills as to the merits and demerits of using it.

Mill B has discarded it to a large extent citing the disadvantage that the thread rubbing against the nylon soon frayed the nylon and eventually cut the filling yarn. Mill D is not using nylon in its shuttles at all because testing showed that it blistered and splintered at contact point.

Mill S, which uses 40-pound test nylon on filling counts from 12s to 27s, but does not use it on counts heavier than 12s, was explicit in reporting these advantages and disadvantages:

Advantages: "Saves fixer about two hours a week as he doesn't have to change as often as bristles." "More constant tension bobbin to bobbin as well as within the bobbin." "Nylon is always the same—bristles vary with each shipment."

Disadvantages: "Have to train fixers—slight variations in use with different yarn numbers." "Gets hot and splits on coarser yarn numbers." "Weavers have to be careful in handling shuttle when filling breaks to keep from pulling out the loops."

A fourth sub-question on the use of nylon in place of fur and/or bristle in shuttles was "Have you been able to increase filling package size?" Practically all of the answers to this were negative, although Mill K reported an increase of about ten per cent by weight.

The next question asked the mills to state their experiences with new plastic or molded shuttles. Of the seven who said they were satisfied with their results, six pointed out that plastic or molded shuttles were more expensive than the wooden kind. Five of the six said they were twice as expensive. While Mill E called its new type shuttle "considerably more expensive" than the dogwood, it also declared "we believe it will be more economical in the long run in view of increased running life and decrease in fixing and upkeep required."

While several mills agreed that the cost of new plastic or molded shuttles was twice that of wooden shuttles, many also agreed that the life of these shuttles was double—or more—that of the old shuttles. Two mills reported double the life, one three times the life, one three to four times, and one four times the life.

The next question dealing with looms running loop selvages was in two main parts. The first part was "Do you have excessive breaking of wires after the week-end stop? How do you control this?"

Of the eight mills answering this, only two reported any trouble of this kind. One of these two—Mill D—said that it was trying to control excessive breakage by "a reduction of humidity over these looms on the Monday morning start-up." The other—Mill K—said that while it had had a great deal of trouble with this situation in the past, "We believe that we have reduced this to some extent by waiting until just before start-up time to turn on the humidity in the weave room."

The second part of this question about looms running loop selvages asked what advantages and disadvantages had been encountered in using synthetic material in place of wires, and for information as to the size and type of this material, how it had been installed, and the type of fabrics that were woven. Mill A reported that it was trying monofilament nylon and that it looked good. Mill Q replied simply that "Loops would not slip on synthetic." Mill I used a synthetic on several looms but found that "abrasion (from reed) caused many breaks."

Mill D has tried nylon—the limp type, 40-pound test—in place of wire but found that the nylon was subject to too much wearing "at the shuttle crossing and in the temple." "The fabric is a narrow sheeting run on the 40-inch X Cam loom," according to this mill. The fabric's construction was given as 40-inch, 3.60, 56 x 56.

Mill G, which runs loops selvages principally on osnaburg and boot duck, experimented for a few days with nylon in place of wire and found it quite satisfactory. The only disadvantage that this mill encountered with nylon was that "it would frazzle where the shuttle came in contact with it and would not feed out as it should after it had frazzled and would continue to go around the take-up roll until it was broken."

Mill K is weaving two basic types of material—each 40 inches wide—with selvage. One contains 15s warp, filling runs about 2.85 yards a pound; the other has 22s warp and 28s filling and runs about 4.30 yards per pound. The mill reported trying to use .032-gauge nylon instead of wire on these looms with these results: On the heavier goods, the mill got better life with nylon than with wire until Summer heat caused the life "to drop off." At the time of

McAllister Isaacs, superintendent of the Anderson Plant of Bibb Mfg. Co., Columbus, is the new general chairman of the Textile Operating Executives of Georgia. He was elevated from vice-general chairman, succeeding J. A. Fife of Scottdale Mills, Scottdale. Clyde C. Cobb, superintendent of Riegel Textile Corp., Trion, was named vice-general chairman. Lee Wynn of Canton Cotton Mills, Canton, was elected to fill Mr. Cobb's unexpired term on the T.O.E.G. executive committee.

the report the mill was getting about the same life with nylon as with wire, on its heavier goods. The mill also reported "good life" on lighter goods but it said that trouble developed with button-hole selvages and "we have not been able to eliminate this trouble when using nylon. The obvious advantage of using nylon over wire is the reduction of a bad accident hazard."

The only advantage that Mill K-1 reported from the use of synthetic material was "approximately 25 per cent longer life." Disadvantages noted were button-hole selvages and cut selvages. This mill has discontinued using synthetics except for experimental purposes. Sizes tried at this mill were .032, .045 and .060.

The next question asked for a discussion of experiences with metallic yarns including "(a) Method of creeling at slasher or loom, (b) whether on same or separate loom beam, (c) method of drawing in drop wires, (d) number of ends of metallic in warp, type fabric woven, size and type metallic used, any special loom parts or settings."

Seven mills answered this with two reporting very little experience with metallic yarns. Answers to each of the four parts furnished by one mill: "(a) Spools of metallic yarn are creeled on the front of slashers—run off of a rod. (b) Same loom beam. (c) Metallic ends drawn in separate drop wires. (d) We run from 15 to 75 ends of metallic in warps, weaving terry towels and terry yard goods. This is a 1.32 Mylar coated metallic. No special setting is used. We did change our temples to a three-roll (rubber covered) temple."

Eighteen mills sent in answers to the three-part question dealing with X-series loom take-up motions. The first two parts were: "(a) How do you prevent big-ended rolls?" and "(b) How do you prevent telescoping?"

Five mills reported no trouble with big-ended rolls. Three reported no trouble with telescoping, with a fourth saying that it encountered no trouble with telescoping if certain remedial conditions which it prescribed for preventing big-ended rolls existed.

Mills which recommended the same steps to prevent big-ended rolls as telescoping included: Mill I which said that the following must be lined and leveled: "Drag rollers, vibrating roller, stop motion girt, and sand roller cloth roll traverse arms must be set level to have cloth roll exert same pressure against take-up roll." Mill M prescribed "Use good tube the right o. d. and length; keep cloth roll bearing in good condition; keep even tension on springs."

Mill Q was one of the mills reporting different ways of combating big-ended rolls ("keep gears clean and set together") and telescoping ("Use short piece of tube on ends of regular cloth tube.")

The third sub-question on take-up motions was "Which do you prefer—center wind-up spring or double spring? Will this help baggy selvages?"

Of the 17 mills answering this sub-question, seven came out in favor of center wind-up spring and an equal number favored the double spring. Two mills had no preference and the 17th liked each of the springs under certain conditions, saying that it preferred center wind-up springs up to 50-inch loom widths and double springs above 50-inch looms. "If the spring does its job and proper maintenance and tension are used, baggy selvages should be helped," according to this mill.

Mills favoring each type of spring felt that baggy selvages might be helped but more than one mill was not at all convinced of this.

Mill experiences with the new testers for checking tension in shuttles and/or warp was the subject of the next question. Only three mills reported any experience. Mill E does not have a shuttle tension tester but does have a warp tension tester and "can check the tension on the same number of ends each time." The use of a Brush tension tester on warp tension and on shuttle tension at Mill L was found to be "most helpful in getting our harness and loom set to reduce tension on warp yarn." Mill S reported that it had experimented on shuttle tensions with a tension meter and had found it helped solve many problems. "Mispicks, shade changes and button-hole selvages were found to correlate closely with excessive shuttle tension. Shuttle tension reaches its highest point on the empty bobbin and anything which tends to increase tension at this point may cause defective cloth. Some factors which cause excessive tension are: wet filling, crooked bobbins, worn out bristles or fur, and misplaced shuttle springs."

The last question on weaving was in two main parts: "When changing to larger packages on filling, have any changes in the shuttle been necessary to keep the quill straight? Have you tried using four rings on quill or increasing distance between rings?"

The ten answers turned in to both of these questions were almost entirely in the negative, although Mill O said "In changing from eight to 8¾-inch quills we found that it was helpful to specify for the shuttle to have two bolts in the shuttle spring instead of one. This keeps the spring tight and in turn the quill is kept straight."

Stevens, Bur-Mil Team Up With Fiberglas

[Not a MERGER]

The first national TV merchandising campaign in the textile industry's history to be undertaken jointly by a fiber producer and textile mills was announced recently by Owens-Corning Fiberglas Corp., J. P. Stevens & Co. Inc. and Burlington Industries Inc. through the Bur-Mil Hess Goldsmith Division. The campaign will include a nationwide television promotion of Fiberglas curtains and draperies on N.B.C.'s "Home Show."

Are Weavers Skirting Men's Wear?

Too many textile mills and converting firms serving the men's wear field are out of touch with what is going on at the consumer end of the line, in the view of a specialist in textile financing. Sam Lipson, vice-president of Commercial Factors Corp., says that "apparel makers like to do business with suppliers who are fashion-minded—who will take the trouble to get out and find out what is going on.

"In the women's wear field, producers and converters know the importance of thinking along style lines," said Mr. Lipson, "and you might say they have to keep in touch with the major trends to stay in business. This same situation is not far off in the men's wear industry."

He cited the growing importance of style generally in the manufacture of men's wear, and apparel for girls and boys too. "There are mills and converters that are doing a good volume these days in styled fabrics," said Lipson, "and they are almost without exception the companies that make a point of keeping one jump ahead of their customers, whose desires and needs are anticipated."

Cone Getting Carlisle Finishing Plant 'On Steam'

CONE Mills Corp. expects to have its new dyeing, printing and finishing plant at Carlisle, S. C., in full production shortly after the first of the year. The plant, known as the Carlisle Finishing Co., is one of the largest finishing plants under one roof in the country. Cone officials figure it will eventually be even bigger, so the main building was planned to permit expansion in three different directions. The boiler house, filter plant and pump house are also built for possible future expansion.

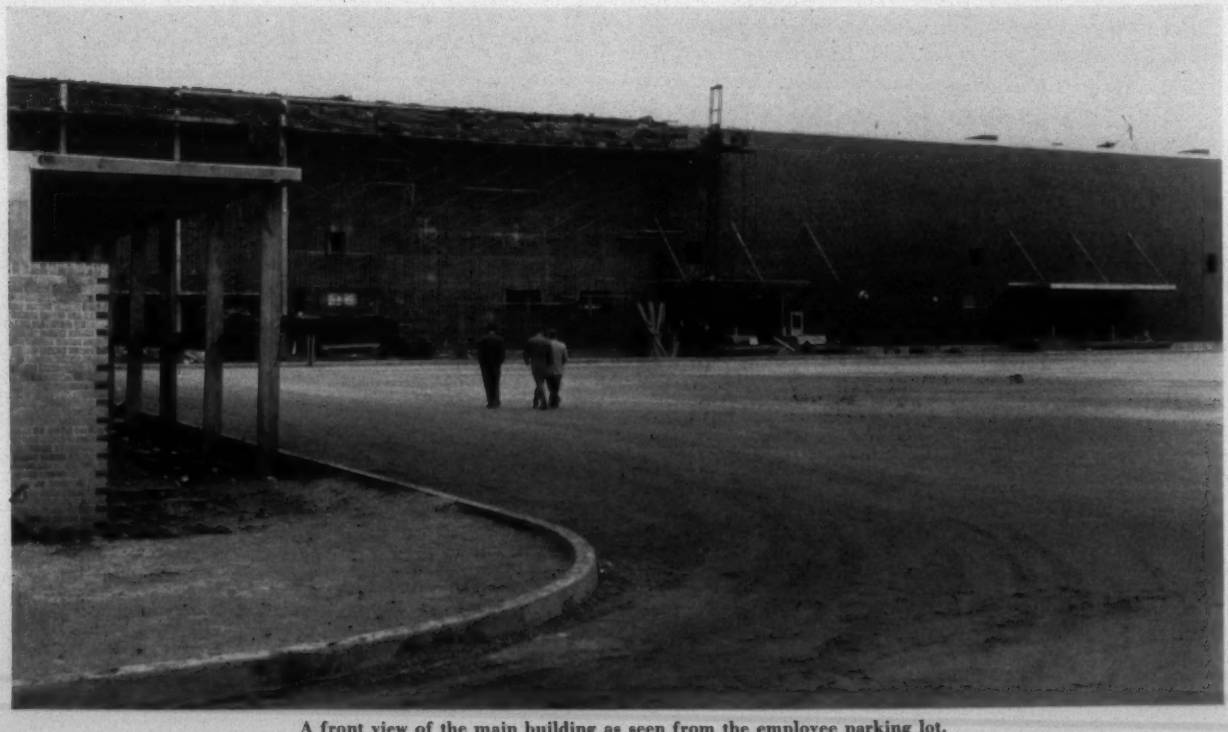
The plant is located on a 928-acre site at Carlisle about a mile from the Broad River on South Carolina Highways 72 and 215, about 18 miles southwest of Chester. General grading on the site was begun in November 1955, and footing excavation began in December 1955. Structural steel work was started in May 1956, halted in August because of the nation-wide steel strike and resumed in October.

Total floor space for the plant is 650,000 square feet, or 13 acres. The roof area of the main building alone covers over eight acres. The building is all one story, with basements and mezzanines in certain sections of the structure. The entire finishing process has been installed in a U-shaped arrangement, with service departments extending down the center of the U. Greige goods coming from the railroad platform go to the warehouse at the south end of the main building, then to the greige room, then to drying and mercerizing or napping, on to the dyeing machines, printing machines, agers, soapers, sanforizers, hookers, inspecting and packing and into the finished goods part of the warehouse to await shipping.

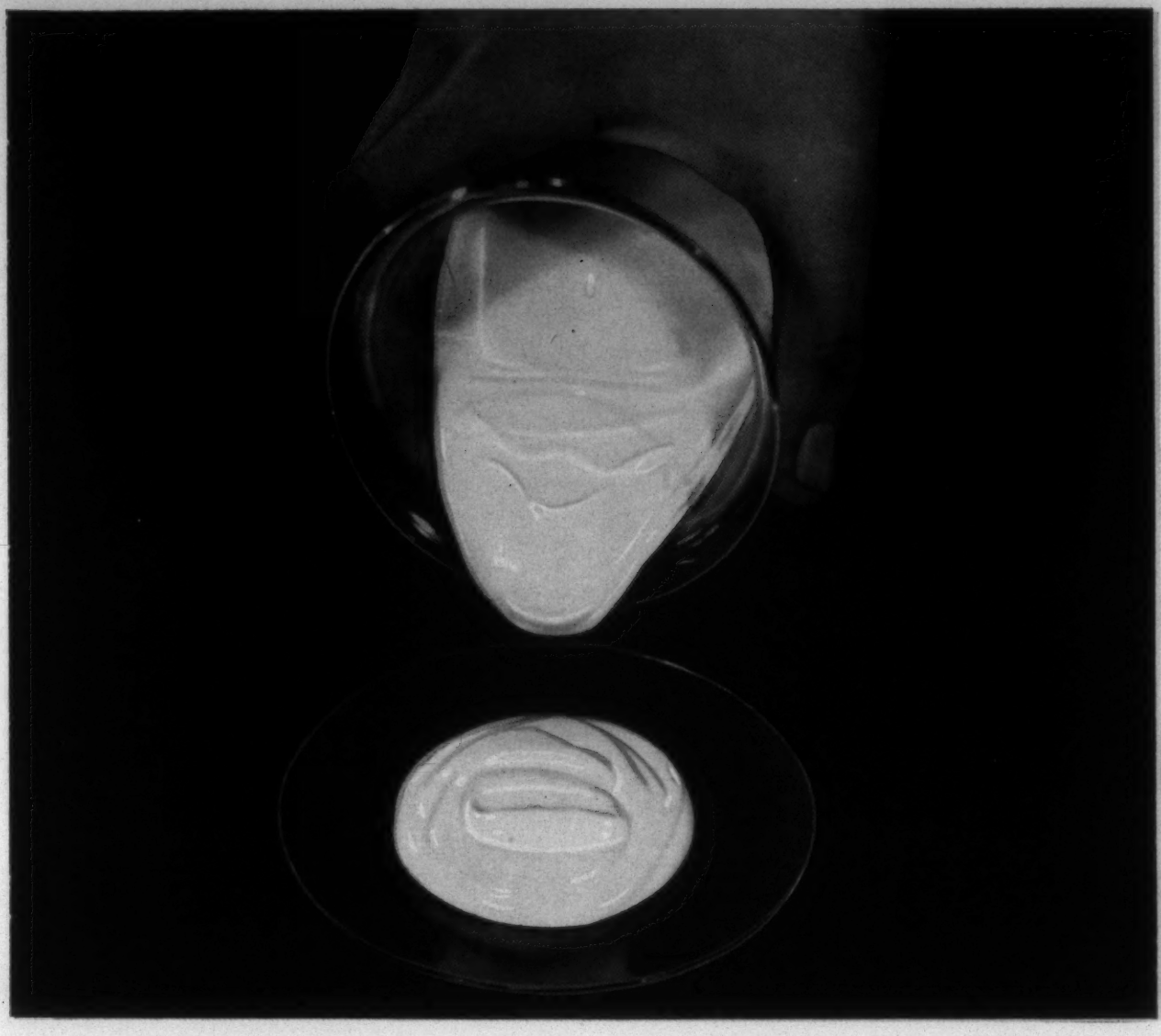
Machinery housed in the main building includes ten printing machines, with drying cans on an upper level; one mercerizer; two drying ranges; 40 nappers; two agers; four soapers; two sanforizers; three finishing ranges; hookers; and packing equipment. Continuous peroxide bleaching ranges will be installed. Also in the main building is a modern testing laboratory on one of the mezzanine levels. On the main floor just below the laboratory is the roller engraving machinery, with the two-level color shop adjoining.

The plant's boiler house is equipped with three boilers, each designed to generate 75,000 pounds of steam per hour. The fully automatic operation includes the removal and disposal of ashes. To keep a record of coal consumed, the coal is weighed continuously as it goes into the boilers. While the boilers are designed for 500 pounds working pressure, they will be operated at only 150 pounds in keeping with initial requirements of the plant.

The filter plant is designed to take care of five million gallons of water a day, to be pumped from the Broad River. The plant in full operation will give off two to three million gallons of waste a day, the waste being pumped to a huge storage basin with a capacity of 80 million gallons;



A front view of the main building as seen from the employee parking lot.



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A little bit of ACRYSOL GS thickener goes a long way in improving the backing of carpet and upholstery fabrics. First off, application is easier because ACRYSOL makes compounds unusually smooth in texture and exceptionally stable in viscosity. Secondly, the backing itself is better. That's because ACRYSOL GS provides a smooth coating with excellent resistance to aging, dusting, and unusual uniformity in application.

ACRYSOL GS is so widely compatible and such an efficient thickener that it can be used with many resins, latex emulsions, and filler ingredients. For still other backing systems, two new thickening agents are also available. ACRYSOL ASE-60, a non-linear thickener, provides high viscosity in small concentrations. ACRYSOL ASE-75, a linear thickener, is especially suitable for GRS rubber.

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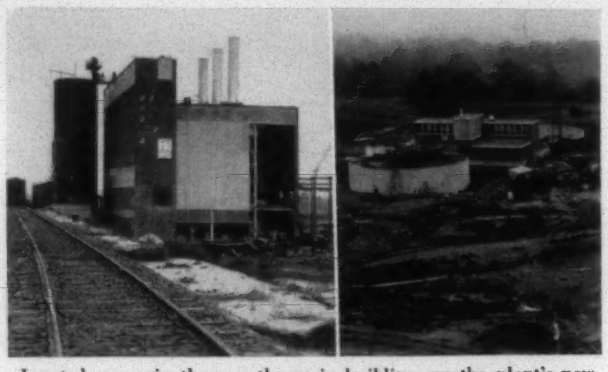
Representatives in principal foreign countries

the waste will be retained in the basin for 30 days before being dumped back into the Broad River.

Other features of the plant include a tank farm near the main building for storing chemicals used in the finishing processes. A large water tank with a capacity of 300,000 gallons is also conveniently near the main plant. Electric power for the plant will be furnished by the South Carolina Electric & Gas Co., which has run a 115,000-volt line to serve the plant. It will be possible later to install generators. An employee parking lot has been provided in front of the main building, and a space on the ground floor of the building has been set aside for an employee reception room and lunchroom.

An interior view of the main building where all finishing equipment is being installed in a U-shaped arrangement.



Located conveniently near the main building are the plant's new boiler house *(left)* and filter plant *(right)*. The boiler house is equipped with three boilers, each designed to generate 75,000 pounds of steam per hour. The filter plant will take care of 5,000,000 gallons of water a day. The pumphouse is adjacent to the Broad River a mile away.

Making a tour of the plant recently to get a first hand look at its construction features was the board of directors of Cone Mills, along with a number of special company representatives and guests. The accompanying pictures (courtesy of *The Textorian,* Cone Mills employee publication) were taken during the inspection visit.

Cone Mills officials making the tour included: Benjamin Cone, chairman of the board; Ceasar Cone, president; Clarence N. Cone, vice-president; Sydney M. Cone Jr., vice-president; Herman Cone, a director; Marion W. Heiss, Earl R. Stall and James Webb, vice-presidents; Harold W. Smith, treasurer and controller; Lewis Morris, secretary and assistant treasurer; Marshall Gardner and P. C. Gregory, assistant vice-presidents; Henry Nichols, a director; Hobart Souther, research director; P. C. Beatty, manager of the company's Granite Plant, Haw River, N. C.; George Nance, engineer; Leonard Englund, production manager at Union Bleachery, Greenville, S. C.; and L. C. Tollison, plant engineer at Union Bleachery.

Representing Cone Mills Inc., the company's New York selling agency, were Saul F. Dribben, chairman of the board, and Lewis M. Heflin, president. Other guests making the tour included Charles Daniel, Daniel Construction Co.; Robert Adams, J. E. Sirrine Co.; Buck Mickel, Daniel Construction Co.; and Jack Vandiver, Daniel Construction Co.

A very special guest for the tour was H. A. Barnes, retired superintendent of the Cone Print Works Plant. Mr. Barnes started printing and finishing operations for Cone Mills in 1913 in what was then the company's carpet mill. He installed some indigo dye vats and two print machines, and the operation consisted of dyeing greige goods with indigo and then printing the dyed cloth with chemicals to produce white patterns on the blue background.

Also making the tour were officials of the Carlisle plant—R. R. King III, plant manager; Gordie Boyd, production manager and superintendent; Burton Campbell, resident manager; and Kelly Blanton, assistant superintendent.

Gardner, C. N. Cone, Daniel, Heiss, Heflin, Ceasar Cone

A group of Cone Mills officials which recently toured the new facilities included Marshall Gardner, assistant vice-president; Clarence N. Cone, vice-president; Charles Daniel of Daniel Construction Co.; Marion W. Heiss, vice-president; Lewis M. Heflin, president of Cone Mills Inc., New York City; and Ceasar Cone, president of Cone Mills Corp.

King, Stall, Gregory, Boyd, Cone

Part of the tour group looking over equipment in the napping room are Earle R. Stall, Greenville, S. C., Cone vice-president; P. C. Gregory Jr., also of Greenville, assistant vice-president; Gordie Boyd, production manager and superintendent of the new plant; and Sydney M. Cone Jr., vice-president. Shown in inset *(left)* is R. R. King III, Carlisle plant manager.

Textile Uses for Stable Ultraviolet Light Absorbers

By DR. G. M. GANTZ, Antara Chemicals, General Aniline & Film Corp., New York City

There are many potential applications of ultraviolet absorbers in the textile industry. They could be incorporated in fabric coatings or in finishes applied to yarns or fabrics that are known to degrade in outdoor exposure because of ultraviolet light; they can improve markedly the lightfastness of those dyes which are faded by ultraviolet light. This subject was discussed by Dr. Gantz in a paper presented at the recent Chemical Finishing Conference sponsored by the National Cotton Council, from which the following is abstracted.

THE ultraviolet portion of solar energy has been considered an important factor in the degradation of materials exposed outdoors. Much effort has gone into improving the light stability of dyestuffs, textiles, paints and plastics. Major emphasis has been directed toward better inherent lightfastness of materials but the use of organic additives as light stabilizers has received considerable attention in recent years.

Perhaps one reason why light stabilizers have not become as common as antioxidants, or heat stabilizers, is that most of them were not inherently light stable. Poor stability of an untraviolet absorber may not be a handicap for use in a suntan lotion but rules out applications in protective coatings and plastics. Of all the organic compounds that have been studied for use as ultraviolet absorbers, it is believed that derivatives of 2-hydroxybenzophenone are the most stable and most efficient. Compounds of this type are now marketed by General Aniline & Film Corp. under the trade name Uvinuls and by American Cyanamid Co. under the designation UV absorbers.

Applications as Optical Filters

It is convenient to divide the uses of the stable UV absorbers into two classifications: (a) use in protective coatings or plastic sheets to serve as optical filters for protecting a substrate; and (b) use as a stabilizer in various materials to prevent degradation by ultraviolet light. This classification cannot be followed very strictly because in some cases both effects are operative and in other cases the mechanism is not clear.

It has been found that clear nitro-cellulose lacquers containing an ultraviolet absorber are effective in preventing the darkening of certain natural and chemically bleached furniture woods. A clear polymethylmethacrylate lacquer containing an absorber was found to give marked protection to polystyrene exposed outdoors. It is expected that a variety of other applications will be found for clear finishes containing stable ultraviolet absorbers.

Transparent plastic sheets and films containing ultraviolet absorbers have found a variety of uses. The Ozalid Division of General Aniline & Film Corp. markets a UVHC filter for use in the Ozalid reproduction process. Clear, colorless cellulose acetate sheets containing an absorber seem to be as effective as the amber shades used in store windows to protect merchandise on display. It is possible to package various items sensitive to ultraviolet in clear plastic films containing absorbers.

In glazing materials such as polymethyl methacrylate used in airplane windows or canopies it is often possible to incorporate an absorber in the monomer before polymerization. Ultraviolet radiation, which becomes more intense at high altitude, can be screened out to prevent sunburn or other adverse effects.

Application as Stabilizers

It has been known for many years that polymeric materials are degraded by ultraviolet light. Several companies have worked on this problem and many patents have been issued on formulations incorporating ultraviolet absorbers to improve weatherability. The problem is rather complex because plasticizers, antioxidants and heat stabilizers are often involved. Furthermore, years of testing under practical conditions may be required to prove the merits of a stabilizer system.

Polyester resins are prone to discolor and deteriorate on outdoor exposure. A very pronounced stabilizing action has been found for 2-hydroxybenzophenones in polyesters and most resin manufacturers market one or more light stabilized types.

Vinyl chloride and vinylidine chloride polymers degrade under the influence of heat and light by loss of HC1, which catalyzes further breakdown, and subsequent oxidation of double bonds. When 2, 4-dihydroxybenzophenone is added to a vinyl chloride resin it can increase the rate of discoloration by ultraviolet light. It has been postulated that the thermal energy converted by the absorber initiates loss of HC1. If a heat stabilizer, such as a metallic soap is added to the system, however, the absorber functions as expected by stabilizing the system against ultraviolet. A variety of benzophenone compounds have been patented for use in chlorine-containing polymers.

Cellulosic resins are adversely affected by ultraviolet light and can be stabilized by addition of absorbers. It has been shown that cellulose acetate butyrate could be stabilized against outdoor weathering by addition of phenyl salicylate as an ultraviolet absorber. Presumably, the more efficient and more stable benzophenone-type absorbers would be more effective.

Stable ultraviolet absorbers can be used to increase the life of rubber-based pressure sensitive tapes. They can be used to protect a variety of UV sensitive materials in either organic or aqueous solutions.

Application in Textiles

The adverse effect of light on both natural and synthetic textile materials is quite well known. Although the subject is old, it is very complex and can be influenced by a variety

of factors. Simple and economical methods of utilizing stable ultraviolet absorbers to improve the light fastness and weatherability of textiles have not been established. To a considerable extent, then, this discussion must be limited to potential applications.

A major difficulty is determining what wave lengths of ultraviolet, visible or infrared radiation are responsible for degradation. Other factors, such as mildew, presence of moisture, presence of oxygen, industrial fumes, sensitizing action of dyes or dulling pigments, can influence degradation during outdoor exposure. On the other hand, use of accelerated laboratory tests such as the Fadeometer may give unrealistic results since this device is known to have a higher percentage of ultraviolet energy than sunlight.

It might be thought that ultraviolet absorbers would find extensive use for upgrading light fastness of dyes. The possibility of stabilizing cheap fugitive dyes to compete with more expensive fast colors is intriguing. Several practical factors, however, render this application quite unlikely.

Consider first the problem of applying an absorber to a textile fiber or fabric. A water soluble type would be ruled out for lack of wash fastness. Dipping the textile in a solvent solution of a water insoluble absorber might leave a uniform surface deposit but this would probably not be very fast to rubbing, washing or drycleaning. The ortho-hydroxy group, which is considered essential to performance of the absorber, tends to make the compound soluble in alkaline solutions.

The best approach might be to incorporate the absorber in a resin latex and apply this to the textile item. Application of five per cent latex solids as a uniform coating over a 20-micron diameter fiber would give film thickness of less than .25 micron, assuming equal densities of the fiber and latex polymer. However, the absorbing power of films decreases when they become thinner. Recalling that 25.4 microns make up one mil, it is obvious that only a small amount of ultraviolet radiation will be screened out by films of the order of one micron..

Another difficulty is encountered when the spectral regions which cause fading of dyestuffs are considered. It has been found that ultraviolet and visible radiations caused fading of dyes up to a critical wave length. This critical wave length was in the red for the fugitive colors and in the blue for the light fast colors.

Since only five per cent of solar radiation is in the ultraviolet, screening out this radiation would retard the fading of fugitive dyes only slightly. On the other hand, ultraviolet radiation is a major factor in the fading of the more light fast dyes, particularly yellows and oranges.

If the absorber were located in the fiber rather than in a thin surface film, it should be more efficient in protecting dyestuffs which are also within the fiber. Just how this might be accomplished in the case of natural fibers has not been determined.

Evidence has been obtained to indicate that some of the substituted benzophenones will penetrate into synthetic fibers much like acetate dyestuffs. The shift in absorption after dyeing a nylon swatch for 45 minutes at 95°C. in an aqueous dyebath containing an experimental absorber bath indicates some exhaustion of the absorber onto nylon. It has been found also in certain cases that if an absorber is added to a regular dyebath, improved light fastness can be obtained. It is also known that an absorber can be incorporated

into a spinning dope to improve the light fastness of certain pastel shades of spun dyed fibers.

It appears that stable ultraviolet absorbers will find a number of special applications for improving the light fastness of dyed textiles. In each case it will be necessary to balance cost against performance.

There is also a possibility of using ultraviolet absorbers to enhance the weatherability of undyed textiles. The degradation of textile fibers has been studied extensively in sunlight as well as in artificial light. It is generally accepted that ultraviolet light plays an important part in fiber deterioration outdoors. Dyes and pigments may retard the effect of light or act as sensitizers to increase the rate of degradation.

Several undyed fabrics were exposed in Charlotte, N. C., this Summer for 30 and 60 days with and without a plastic cover containing an absorber. Exposures were made on a test rack facing south at a 45° angle, without glass, and for 24 hours each day. The six mil plastic film effectively screened out all radiation below 400 mu. The results of tensile strength measurements on these fabrics are shown in Table I.

With the reservation that other factors affect textiles on outdoor exposure, the data indicate that elimination of ultraviolet radiation greatly retards degradation. In the case of cotton and wool there is a problem of applying absorbers as pointed out earlier. It should be possible to incorporate absorbers during the manufacture of nylon and Dacron, unless the high temperatures involved cause too much degradation. Another possibility for these fibers would be to apply the absorbers from an aqueous solution by a dyeing process.

TABLE I
Effect of Ultraviolet on Strength of Fabrics

Fabric	*Exposure*	*Per cent Loss of Tensile* *No Filter*	*With U.V. Filter*
Cotton	30 days	23	0
	60 days	28	23
Wool	30 days	34	12
	60 days	66	12
Nylon	30 days	100	32
(delustered)	60 days	100	37
Dacron	30 days	44	5
(delustered)	60 days	65	5

Certainly, the surface has merely been scratched for textile applications of ultraviolet absorbers. One reason for this, of course, is the fact that the benzophenone-type absorbers have been commercially available for only a short time. However, since textiles are damaged by ultraviolet light, and since stable, efficient absorbers are now available it seems inevitable that a number of textile applications for the absorbers will be found.

Thomas R. Hart Memorial Scholarships

Plans to establish a scholarship fund in the School of Textiles at North Carolina State College as a memorial to the late Prof. Thomas R. Hart are now under way. Alumni and other friends of the late college faculty member already have begun contributing to the fund, which will be used to finance scholarships for outstanding sophomores in the School of Textiles. Professor Hart was a member of the School of Textiles staff for 36 years prior to his death on Jan. 10, 1956. At that time, he was director of instruction in the school.

How Georgia Mills 'Keep House'

By HARWELL HOWARD

A discussion on various mill maintenance practices, part of the recent meeting of the Textile Operating Executives of Georgia, was led by S. E. Murdock, superintendent of the Eagle & Phenix Div. of Reeves Bros. Inc., Columbus.

The first maintenance question called for experiences with power transmitter-type drives for looms. Eight of the 11 mills answering expressed satisfaction with this type drive. Two mills were dissatisfied and the 11th mill declined to comment because of its limited experience. Mill K has found "this type drive is easier for the weaver to operate, is easier to repair, gives more uniform speed, requires less maintenance, and makes for smoother operation of the loom." While Mill A called it the best drive ever made from the standpoint of weaving, it cited two disadvantages: "excessive maintenance on clutch; and difficulty in lubricating interior bearings."

The second question in the maintenance discussion had been sent in by Mill D which, before adopting Pneumafil, had "used hand levers on spinning frames to start and stop motors through a drum-type master switch. The maintenance on motor starting switches is very low." Since its transition to Pneumafil, this mill has installed start-stop-jog push buttons and maintenance has increased substantially. "Why?" this mill wanted to know.

Mill S does not have switches with the "jog" position but feels that its "start-stop" switches cause less trouble than did the old conventional type hand lever switches. Mill T, where the push buttons are also of the "start-stop" kind only, has not experienced undue maintenance. This mill pointed out that the fires caused by the discontinued electrical drum switch have now been eliminated.

The third question under maintenance was "What is your schedule for cleaning and re-insulating your loom motors?" Four of the 11 mills answering this said they had no standard schedule. Two of these four reported that their loom motors were all enclosed; another said that reinsulating was done by outside jobbers. A fifth mill said it did not reinsulate loom motors unless there was a failure.

At Mill B, motors are overhauled "as needed" and are oiled every three months. Mill C said that cleaning was not necessary but that it lubricated every three months. Mill H said "We try to get over our loom motors in a period of five to six years." Some of Mill I's motors are enclosed and don't require regular inspection or cleaning; its 175 1½-horse power open-type motors are cleaned and inspected annually. Mill Q stated that it cleaned, dipped, baked and checked bearings every three years.

The fourth question under maintenance was "How do you keep your humidification? Do you have central maintenance from the machine shop and under the machine shop supervision, or is part of the work done by the various departments?"

Most of the 17 answers which this question elicited stated that central maintenance was performed by or under the supervision of the machine shop or mechanical department. However, Mill H said that each of its departments took its own readings and made the necessary adjustments on control. "The maintenance of the system, including repair and calibrating controls, is handled from the mechanical department" at this mill. Mill O reported "The maintenance of our humidity is under the supervision of the foreman of the pipe and welding shop who is also in charge of our air conditioning installation. He has a humidifier man working under him on each shift. The operating personnel of the mill is not allowed to tamper with the humidity controls but must report any irregularities to the humidifier man on duty." Mill J-2 said "All of our humidification is kept up by personnel in the plant. They call on the shop only for alterations where it is necessary to do pipe work." Mill Q said, "We have one man on central maintenance. He is under the direction of the technical department. All cleaning is done in the respective departments."

The next maintenance question to come up for discussion was "What is the best method for preventing rust and corrosion on air conditioning fans? Is cleaning and painting rust spots as they appear better than painting the whole fan?"

Only a few mills sent in concise answers to this question. Mill N has not found a satisfactory method. Neither has Mill H, which went on to say that it had painted the interior of two fans in 1955 with an asphaltic coating "and inspection a year later showed that this seemed to hold up better than anything we have tried so far." Mill C cleans and paints the whole fan "when rust spots appear" while Mill M gets the best results "by thoroughly cleaning and painting fan blades and fan houses once a year."

The next maintenance question asked (a) what experiences the plants had had in connection with the "interrupting capacity of electrical circuit breakers in their power substations," and of the "capacity to withstand short circuit conditions." Part (b) under this question about electrical circuits and circuit breakers was "What is the procedure and limiting factors for fusing electrical circuits against short circuit conditions?"

Mill I replied to (a) by saying "The circuit breakers in the sub-stations have the necessary current interrupting capacity to withstand short circuit conditions," and to (b) with this answer: "The fuse ratings are selected to correspond

with the current carrying capacities of the conductors they are installed to protect."

Mill N's answers "(a) All electrical circuit breakers should have adequate interrupting capacity for short circuit current available at the application. The circuit breakers in this plant have adequate interrupting capacity for the short circuit currents. (b) This requires specific engineering for different applications."

"What is your practice in grounding electrically driven power tools with wattages above 110 volts such as power sanders, drills, grinders and floor saws, to prevent possible electrical short cuts and meet insurance safety standards?" was the next maintenance question.

A few of the mills said that they did not ground; a couple said they did not use power tools above 110 volts; a couple more said they used polarized plugs. Mill I reported, "All 110-volt single phase electrically driven power tools are equipped with three conductor cables. One conductor is connected to the metal housing of the tool and is grounded to the conduit system through the grounding terminal on the three-pole twist-lock plugs and receptacles."

The last question under maintenance and the last one of the meeting was "Under certain conditions, cold water lines running through the mill tend to sweat and drip excessively. What solution have you found to successfully eliminate this dripping?"

Insulation was the key answer here. Mill A uses foamglass insulation; Mills B and R, asbestos wrapping; Mill J, a magnesia pipe covering; Mill T, cork pipe covers.

However, Mill H reported failure in attempting to insulate a cold water line that ran through its weave room and supplied water to the air washer. This insulation was completely redone twice but would break down after a few months," according to this mill. "A heater was installed on this line at a point just before it entered the weave room." This installation raised the water temperature above the room's dewpoint temperature and succeeded in eliminating the sweating.

Mill K has eliminated dripping from its regular water lines by insulating the pipes. "In the case of humidifier water lines," this mill said, "we have put heaters in our humidifier tanks and heated the water so it will not cause dripping." Mill O has eliminated sweating pipes "by mixing some hot water with the cold water which ordinarily runs through these pipes."

Bench Marks For Buying Lift Trucks

Those factors which must be considered when choosing an industrial truck were outlined in a special report to industry released recently by W. A. Meddick, vice-president of the Elwell-Parker Electric Co., Cleveland, Ohio. Mr. Meddick stated that there are six major areas of consideration. One of the most important, to most companies, is the capacity of the truck. In this regard, he notes, the size and weight of the loads most often handled plus the possible increased size and weight of future loads are of critical importance.

"When buying a truck, it is best to specify one that will meet average requirements, and it is not practical nor economical to buy a truck to cover every conceivable problem. For example, if 95 per cent of the loads to be handled weigh 2,000 pounds each, it is not practical to purchase a 4,000-pound-capacity truck for occasional loads of greater weight, but rather to seek some alternate handling means."

With regard to planning for future loads it was noted that an applicable rule of thumb is to figure the size of loads which will be handled when a general handling system, after modernization for example, is operating at peak efficiency.

Another factor to consider is the required lift of the vehicle to be purchased. In this connection, the following information should be computed; the greatest stacking height feasible minus the height of one complete load unit; the allowable collapsed height of the truck; the maximum weight withstood by the bottom load in the stack; the maximum weight withstood by the floor on which the stack rests; and the maximum stability of the truck during high stacking. "It is most important," Meddick stated, "to consider every conceivable safety factor when handling extra high loads, and the attending hazards to both truck operators and other employees."

Total weight and size of the vehicle to be purchased are still other considerations. For example, floor load capacities, elevator capacity and size, aisle widths, and limitations of confined areas, all have a direct bearing on the total weight and size of the truck. Of the points listed, floor load capacities and the limitations imposed by narrow aisles, crowded production and/or storage areas, impose the greatest restrictions on the trucks themselves, and it would be most disastrous to have failed to take such points into consideration prior to the final purchase of any given model.

When using electric industrial trucks, the specification of battery capacity is of course of critical importance. Factors specifically pertaining to battery capacity include: the length and frequency of truck travel; lift; tilt; action of attachments; whether ramps are traveled; the amount of truck jockeying; the length of the working day (shift); and finally, the size of the truck itself. To obtain such information, the duties of a given truck to be purchased (or replaced) must be studied carefully for a normal day.

Even though demands on a truck may be great, and thus a larger capacity battery may be indicated, the problem is often compounded by users' demands for a smaller and more compact truck. It is important to remember that even though certain alterations can be made in the over-all truck design to accommodate a larger than normal battery, and even though certain new battery design features give greater output with a smaller battery, the truck's size and battery capacity must be compromised to insure maximum operating efficiency.

Location of operator truck controls, Mr. Meddick added, is largely a matter of individual company operating conditions. With fork trucks, three optional designs can be obtained: center-control stand-up, center-control sit-down, and end-control stand-up.

Mechanical features, such as truck components and attachments, are best decided with the truck manufacturer in question, but may be tempered by the user's own experience with such components in other equipment as well as in other industrial trucks which are currently in use or have been used in the past.

In conclusion, Mr. Meddick notes that it is most important to remember that when specifying any or all features of an industrial truck, the manufacturer or his representative can be of invaluable aid in determining specific specifications based on individual plant operating conditions. "Because of his experience with other companies, the manufacturer is in the best possible position to know what features make a truck most effective and economical to operate."

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Harold R. Wing has retired as a director, vice-president and general sales manager of Crompton & Knowles Corp., Worcester, Mass., after 39 years with the company. Mr. Wing joined the company's sales department in 1917, and was made supply sales manager in 1925. He was elected a director in 1944, and in 1953 he became a vice-president and was appointed general

Joseph F. Molloy

Harold R. Wing

sales manager, secretary of the executive committee and a member of the development board. He also served as vice-president and director of Crompton & Knowles of Canada Ltd., the company's Canadian subsidiary. Named to succeed him as general sales manager is Joseph F. Molloy, former assistant general sales manager in charge of foreign sales. Mr. Molloy has been with the company since 1919.

E. L. (Sam) Rodgers of Sylacauga, Ala., has been named sales representative in Georgia and Alabama for Emkay Chemical Co., Elizabeth, N. J.

John V. Killheffer Jr. has been appointed to the research staff of Emery Industries Inc., Cincinnati, Ohio, where he will be associated with the plasticizer group of the process research section. Mr. Killheffer was formerly with the organic chemicals department of Du Pont. He holds a B. S. degree from the University of North Carolina.

G. L. Golden of Douglasville, Ga., has been named superintendent of Boaz Mills, Coleridge, N. C., succeeding Elbert Pride, who has been transferred to the company's plant at Boaz, Ala. . . . Named assistant to Mr. Golden at Coleridge is R. B. Simmons, formerly with Indian Head Mills, Whitney, S. C.

Robert L. Poovey, plant manager of Plant "S" of Collins & Aikman Corp., Siler City, N. C., has been promoted to director of manufacturing for the automotive fabrics division of the company. Mr. Poovey joined Klopman Mills at Siler City in 1951 as plant manager, and he remained in that position when Klopman sold the plant to Collins & Aikman in 1953. A graduate of the North Carolina State College School of Textiles, Mr. Poovey was associated with Burlington Mills in Greensboro, N. C., before joining Klopman.

W. C. Miller has been elected treasurer of Industrial Rayon Corp., Cleveland, Ohio, to succeed Allan P. Lucht, who has resigned. Mr. Miller, while serving as treasurer, for the present also will continue in the capacity of controller, a position he has occupied for some time.

Dr. Ralph P. Perkins has been appointed director of the Britton Organic Research Laboratory of The Dow Chemical Co. at Midland, Mich., succeeding Dr. Edgar C. Britton. Dr. Perkins was formerly an assistant director of the laboratory. Dr. Britton, who retired last month, will continue as a research consultant and as a member of the company's board of directors.

Edwin H. Arnold has retired as board chairman of Arnold, Hoffman & Co. Inc., Providence, R. I. Mr. Arnold resigned upon joining the International Co-Operation Administration. A successor has not been named.

William K. Wilder, for the past two years superintendent of Goodyear Decatur Mills, Decatur, Ala., has been appointed assistant to S. A. Steere, vice-president of the textile mills division of the Goodyear Tire & Rubber Co., Akron, Ohio. A native of Glen Rose, Tex., Mr. Wilder studied textile engineering at Texas Tech. Following graduation there he joined Goodyear in 1934. His entire career with the company has been in the textile mills division. He served as assistant superintendent at the

W. K. Wilder

R. R. Thomas

Decatur plant for ten years. . . . Raymond R. Thomas has been named acting superintendent of the Decatur plant to succeed Mr. Wilder. Also a native of Texas and a graduate of Texas Tech, Mr. Thomas has been with Goodyear since 1929. He served the company's textile mills division in Akron and at the company's Cartersville, Ga., mill before being named assistant superintendent at the Decatur plant in 1954.

E. J. Wentz, for many years production and technical superintendent at Dan River Mills, Danville, Va., has retired under the company's pension plan. Mr. Wentz said he plans to continue active in the industry as a consultant.

C. E. Anderson, manager of Excelsior Mills at Union, S. C., and Rutherfordton, N. C., has been assigned the additional duty of manager of Kingstree (S. C.) Mfg. Co. The three plants are part of the Deering, Milliken chain.

Riegel Textile Corp. has announced the election of N. Barnard Murphy as vice-president for administration, and of William R. Robertson as vice-president for textile production. Mr. Murphy, formerly vice-president and general manager of Riegel's Trion (Ga.) Division, will supervise all administrative functions in all manufacturing divisions in his new post. Mr. Robertson, formerly vice-president and general

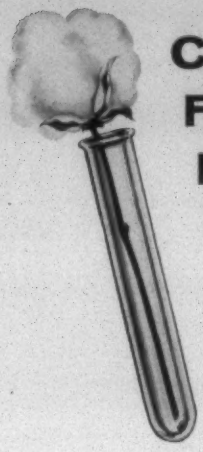
W. F. Robertson

N. Barnard Murphy

manager of the Ware Shoals (S. C.) division, will now be in charge of all manufacturing facilities at the Johnston (S. C.,) Trion and Ware Shoals Divisions. . . . Preston H. David will assume Mr. Murphy's duties as general manager of the Trion Division, and Ralph P. Hardeman will assume Mr. Robertson's duties as general manager of Ware Shoals. . . . Harry A. Turner has been advanced to assistant general manager at Ware Shoals, and Clyde C. Cobb to the same position at Trion.

John Albert Quenelle, superintendent of the Sycamore Plant of Avondale Mills, Sycamore, Ala., has been named chairman of the Sylacauga District, Boy Scouts of America.

Thomas F. Parks has been appointed to the newly-created position of assistant to the vice-president and general-sales manager of The Chemstrand Corp. Mr. Parks has been with the company since last July. Previous



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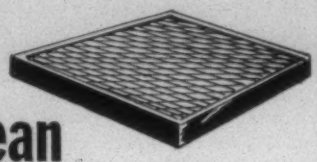

"Why, they look like new!" exclaimed the plant superintendent when he examined six air filters that the Oakite Man had just reconditioned. It was a striking demonstration indeed! Before cleaning, the filters had been covered with a clinging, clogging mess of oil, dirt, dust, and cinders. The Oakite Man had merely immersed the filters in a boiling solution of Oakite Composition No. 22 and hose rinsed. Every bit of oil and grime had been completely removed from all six filters—and the entire process had taken only ten minutes!—Another sample of why it pays to consult Oakite first. For more details, call or write Oakite Products, Inc., 42 Rector Street, New York 6, N. Y.

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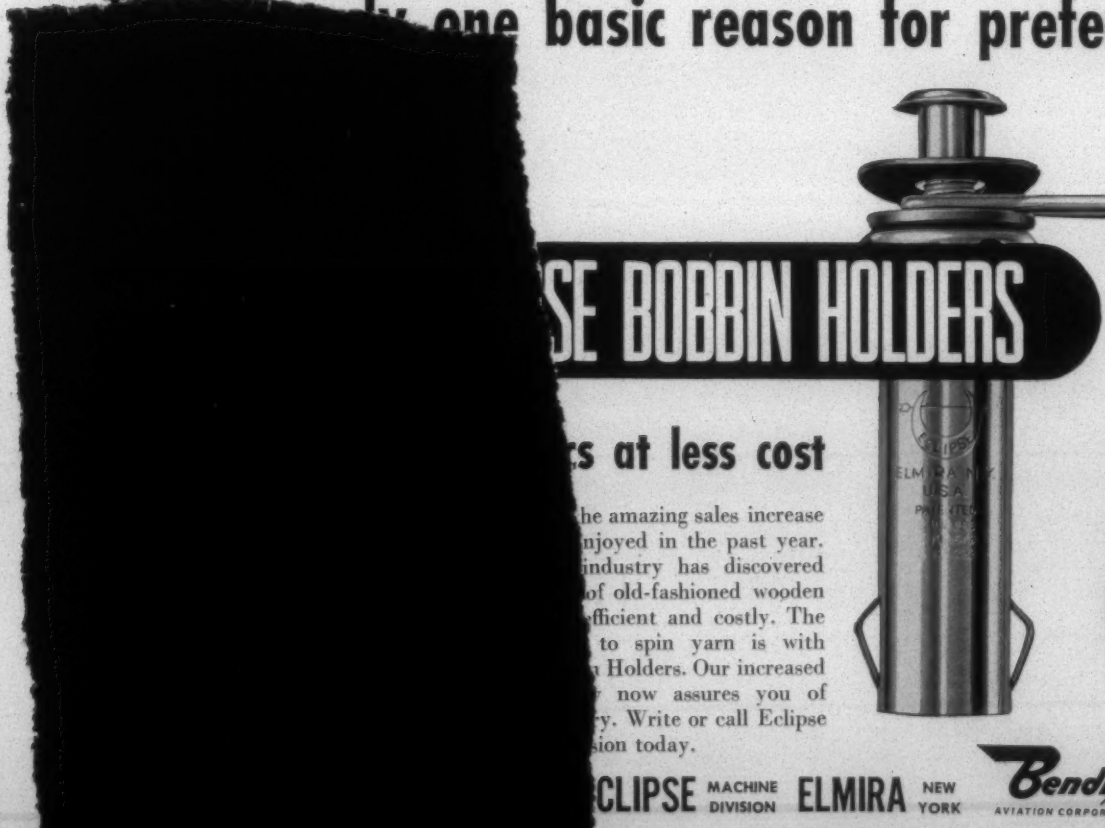

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associations include Vetterlein Bates Co., Boston, Mass., and Vetterlein Associates Inc., Providence, R. I., as executive vice-president and director. He is a graduate of North Carolina State College.

J. R. Fulp Jr.

John Richard Fulp Jr. of Anderson, S. C., has been elected assistant vice-president and a member of the board of directors of Abney Mills. One of the principal stockholders of Abney, Mr. Fulp is the son of Mrs. Sally Abney Zumft of Anderson, S. C., and the grandson of Susie Mathews Abney and the late John Pope Abney of Greenwood, S. C., founder of Abney Mills.

G. C. Kelly has resigned as vice-president of Craftspun Yarns Inc., Kings Mountain, N. C., to accept a position with Textiles Inc., Gastonia, N. C. Mr. Kelly was named superintendent at Craftspun in August 1947. Prior to that he was associated with Lola Mills, Stanley, N. C., and Dixie Mercerizing Co., Chattanooga, Tenn.

William E. Smith has resigned as assistant professor in fiber and yarn technology at the School of Textiles, North Carolina State College, to accept the post of general superintendent of Hadley-Peoples Mfg. Co., Siler City, N. C. In his new post Mr. Smith succeeds Bert Fowler, who resigned to join the staff of the Bouligny Co., a division of the R. H. Bouligny Co., Charlotte, N. C. Succeeding Mr. Smith at N. C. State College is Henry T. Criglar, formerly head of the yarn manufacturing department at the North Carolina Vocational Textile School at Belmont.

P. B. Lewis, former manager of the Aberdeen, N. C., plant of Amerotron Corp., has been appointed plant manager of Burlington Mills' Steele Plant at Rockingham, N. C. A graduate of the University of South Carolina, Mr. Lewis joined Amerotron in 1948 as superintendent of the Aberdeen plant. Prior to that he had been with Dan River Mills, Danville, Va., rising through various manufacturing posts to the position of superintendent. In 1946 he joined Brodnax (Va.) Mills Inc. as superintendent. In his new post, he succeeds Olin Shedd, who resigned.

Samuel I. Parker, vice-president of Ciba Co. Inc., has retired after 25 years with the company. Mr. Parker joined Ciba in 1931 as a sales representative in several Southern states. He was made national sales manager in 1937, and was named vice-president in 1946. A graduate of the University of North Carolina, Mr. Parker joined the First Infantry in 1917 and fought with that division throughout World War I, rising to the rank of captain. He won a number of decorations for bravery during the war, and in 1936 he was awarded the Congressional Medal of Honor after a special commission had reviewed the records of more than two million veterans to select the one worthy to be the 100th recipient of this honor from World War I. The medal was awarded to him in recognition of his leading a charge against a machine gun nest near Soissons, France, in July 1918. Although wounded in the action, he took 40 prisoners and held the position. At the start of World War II, he returned to the Army as a major and was sent to the Fort Benning, Ga., infantry school where he developed and taught a course in leadership. He was awarded the Legion of Merit for this service, and he retired at the end of the war with the rank of lieutenant-colonel. Although retired from Ciba, he is continuing his association with the firm on a consulting basis. He and Mrs. Parker will move from their home in South Orange, N. J., to a farm near Concord, N. C.

Dr. Frank P. Greenspan, formerly manager of organic research and development of the Becco Chemical Division, Food Machinery and Chemical Corp., has been named director of development of the firm's new organic chemicals division. He will make his headquarters in New York City.

Ellis Leach

Ellis Leach, formerly executive vice-president and treasurer of The Timme Corp., has been named president of Collins & Aikman Corp. W. F. Bird has been elevated to chairmanship of the board, succeeding Albert R. Jube, who becomes chairman of the executive committee. Mr. Leach, who has spent his entire career in the textile field, served with The Timme Corp. 13 years. For 22 years prior to that he had been with the L. C. Chase Co., later Goodall-Sa[illegible] where he served as assistant to the [illegible]dent. He will make his headquarters [illegible] New York offices of the corporation.

Jack D. Towery has been named [illegible] the newly-established fiber research [illegible] tory of Moss-Gordin Lint Cleaner C[illegible] bock, Tex. For the past six years M[illegible] ery has been textile engineer and [illegible] principal, Texas Cotton Research [illegible] tee, and an instructor in textile en[illegible] at Texas Tech. Prior to that he [illegible] superintendent of Brenham (Tex[illegible] Mill Inc.; research engineer for th[illegible] of Textile Technology, Charlotte[illegible] textile engineer for Plymouth[illegible] Cordage Co.; textile engineer i[illegible] the pilot plant of Riegel Devel[illegible] oratories, Ware Shoals, S. C.; [illegible] sulting engineer with Werner [illegible] sultants, New York City.

Cone Mills Corp., Greensbo[illegible] announced the retirement De[illegible] F. Dribben, a director of th[illegible] and chairman of the board [illegible] agency, Cone Mills Inc., N[illegible] and Sydney Bluhm, head of [illegible] partment and assistant trea[illegible] Mills. Mr. Dribben, who serv[illegible] of Cone Mills Inc. for 17 [illegible] being named its board cha[illegible] has been with Cone Mills in [illegible] ties 62 years. Mr. Bluhm j[illegible]

pany, then known as Proximity Mfg. Co., in 1907 as a cotton buyer. He was named assistant treasurer of the company in 1940. . . . John Pickup has joined Cone's central industrial engineering department at Greensboro. He was formerly chief industrial engineer at the Aberdeen, N. C., plant of Amerotron Corp. Prior to that he was with Dan River Mills, Danville, Va.

Amos L. Ruddock has been named sales manager of the recently formed textile fibers department of The Dow Chemical Co. For the past ten years, Mr. Ruddock has been head of the merchandising section of Dow plastics sales. In his new post, he will supervise sales, market research, distribution, customer service and merchandising in connection with the company's new textile fiber, Zefran.

Joseph H. Hamilton, former sales manager of Burlington Throwing Co., a member organization of Burlington Industries, has been named manager, with full responsibility for both sales and manufacturing operations. Mr. Hamilton has been with Burlington Industries since 1948, joining Burlington Throwing in February 1956 as sales manager. Prior to that he had served as executive assistant to Spencer Love, chairman of Burlington Industries. . . . Fred T. Pugh, formerly with Madison (N. C.) Throwing Co., has been named superintendent of Burlington Throwing's Hillcrest Plant at High Point, N. C. Mr. Pugh, general superintendent at Madison for the past 2½ years, succeeds A. H. Ballard, who has been transferred to the company's filament weaving operations and assigned staff responsibilities. Prior to joining Madison Throwing, Mr. Pugh had been with Burlington Industries for eight years, service in various ca[illegible]

Manville Corp. and with the National Broadcasting Co. The American Standards Association is a non-profit service organization that serves as the nation's clearing-house for standards activities. It is a federation of 115 trade associations, technical societies, consumer groups and professional organizations.

Robert T. Stevens, president of J. P. Stevens & Co. Inc., has been elected to the board of Owens-Corning Fiberglas Corp. Mr. Stevens previously served on the Owens-Corning board, from October 1949 until he was appointed Secretary of the Army at the end of 1952. . . . Also named to the Owens-Corning board was Howard J. Morgens, executive vice-president of The Procter & Gamble Co. The new directors were chosen to fill vacancies created when the corporation's by-laws were amended to increase board membership from six to eight.

A. K. Winget, chairman of the board of American & Efird Mills Inc., Albemarle, N. C., and immediate past president of the American Cotton Manufacturers Institute, and Ed Lipscomb, sales promotion and public relations director of the National Cotton Council, will serve on the board of judges which will choose the 1957 Maid of Cotton. The new Maid of Cotton will be selected from a group of 20 finalists competing for the title Dec. 27-28 at Memphis, Tenn.

Hubert Fry, sales manager of Central Franklin Process Co., has been named president of the Chattanooga Yarn Association.

OBITUARIES

John W. Arrington Jr., 66, retired executive of Union Bleachery, Greenville, S. C., a division of Cone Mills Corp., Greensboro, N. C., died at his home in Greenville Nov. 27. Prior to his retirement in March 1955, Mr. Arrington had served as secretary, treasurer, vice-president and a director of Union Bleachery which was founded by his father. Mr. Arrington was also a director of Textile Hall Corp. at Greenville. Surviving are his widow, two daughters, a son, a sister and a brother.

David Wills Hunter, 60, who retired last year as president and treasurer of Arcade Cotton Mills, Rock Hill, S. C., died Dec. 4 at his home in Rock Hill. Long active in the textile field, Mr. Hunter was sales agent and assistant treasurer of Saco-Lowell Shops in Boston, Mass., from 1920 to 1924 and treasurer in 1925-26. He also was vice-president of Hunter Mfg. & Commission Co. of New York City from 1926 to 1932, and vice-president of Mansfield Mills and Jennings Cotton Mills from 1938 to 1942. A native of Greensboro, N. C., Mr. Hunter attended the University of North Carolina and the Philadelphia Textile Institute. He is survived by his widow, a daughter and a brother.

John F. Shea, 51, vice-president of Becco Chemical Division, Food Machinery & Chemical Corp., Buffalo, N. Y., died Nov. 26. Mr. Shea joined Buffalo Electro-Chemical Co., predecessor of Becco Chemical, shortly after it was founded in the late 1920s. For nearly 25 years he was the firm's Northeastern sales manager with home offices in Boston. He was a member of the American Association of Textile Chemists & Colorists. Survivors include his widow, a daughter and a son.

Walter W. Watt Jr., 72, who retired two years ago as Southern agent for the Abington Textile Machinery Works, died Nov. 26 in Hickory, N. C., following a heart attack. Mr. Watt had also been associated with Saco-Lowell Shops and with the Fred H. White Co. Survivors include a daughter, four sons, three brothers and two sisters.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

GASTONIA, N. C.—J. C. Roberts, president of Textiles Inc., here, has announced that the company will spend some $2 million in the next 12 months on expansion and modernization.

SEVIER, N. C.—American Thread Co. has moved its machinery development department here from the company's plant in Willimantic, Conn. A. Keith Pooser, general engineer, is in charge of the department.

FRONT ROYAL, VA.—The new addition to the weaving plant here of Schwarzenbach Huber Co. was formally dedicated in special ceremonies Dec. 12. Completion of the addition climaxed an extensive remodeling and expansion program at the plant, which has been in operation for 43 years.

DALTON, GA. — Outstanding stock of Dalton Textile Corp., here, has been sold by John McLellan and the name of the firm has been changed to Dalton Yarn Mills. Robert F. Hamilton is president; Tom Lambert, vice-president; Wells Moore, secretary-treasurer; and George Hanson, general manager. Mr. Hamilton was president of Candlewick Yarn many years before it was sold to Dixie Mercerizing Co., Chattanooga, Tenn. Mr. Moore was a former owner of Dalton Textile Corp. and has recently been connected with Dalton Rug & Carpet Mills and Kingston Mills of Cartersville. Mr. Hanson was formerly general manager of Dalton Textile Corp.

KNOXVILLE, TENN. — Brookside Mills, which closed earlier this year for lack of business, has reopened a portion of the plant and has resumed picking, carding, spinning and winding operations. The firm was offered for sale last May as a going concern for $1,500,000. Since that time much of the equipment in the plant has been sold. It is not known how many of the plant's former workers have been recalled.

LINCOLNTON, N. C. — The Lincolnton plant of Duplan Corp. is being offered for sale, according to the Southern division of Frank G. Binswanger Inc., industrial realtor. The two-level building, with 137,500 square feet of floor space on a 4.8-acre plot, is completely air conditioned. Approximately 3,500 square feet of the space is devoted to offices. Binswanger recently leased Duplan's plant at Burnsville, N. C., near Asheville, to the Firth Carpet Co.; sold the Duplan plant at Grottoes, Va., to the Reynolds Metals Co.; and sold Duplan's Berwick, Pa., plant to the Consolidated Cigar Corp. These properties represented units used by Duplan in its apparel fabric weaving operations which have been discontinued.

FITZGERALD, GA.—Fitzgerald Mills Corp. is selling the 90 houses in its mill village to company employees. Employees buying the houses are currently engaged in extensive home improvement projects, including remodeling, addition of rooms and installation of modern bath rooms. The transfer is being handled by Alester G. Furman, Greenville, S. C.

BROOKFORD, N. C.—Brookford Mills, a unit of United Merchants & Manufacturers Inc., will discontinue manufacturing operations here indefinitely upon the completion

(Continued on Page 107)

A MILLION MAN-HOURS WITHOUT A LOST-TIME ACCIDENT is the record recently set by employees of the Louise Plant of Amerotron Corp., Charlotte, N. C. Date of the last lost-time accident was June 25, 1955. Plant supervisors and members of the safety committee are shown here at the "birthday party."

A.A.T.C.C. Elects National Officers

George Linberg

George O. Linberg has been elected national president of the American Association of Textile Chemists & Colorists. Mr. Linberg, a former vice-president of the association, is vice-president and New England sales manager of Synthron Inc., Ashton, R. I. In the election for the post, he defeated Dr. Walter M. Scott, director of utilization research for the U. S. Department of Agriculture, Washington, D. C.

Elected vice-president representing the association's Middle Atlantic region was Weldon G. Helmus, vice-president and general manager of Fair Lawn (N. J.) Finishing Co. His opponent in the race for this post was the incumbent, Fred V. Traut, Globe Dye Works, Philadelphia, Pa.

For vice-president of the Southern region, H. Gillespie Smith of American Cyanamid Co., Atlanta, Ga., won in a contest with C. Russell Gill of Southern Sizing Co., East Point, Ga.

There were no contests in the New England and Midwest regions, with Ernest R. Kaswell of Fabric Research Laboratories Inc., Dedham, Mass., re-elected in New England, and Elliott Morrill of Best Foods Inc., Indianapolis, Ind., in the Midwest.

Mr. Linberg is a graduate of Pratt Institute, New York, and has been a dyer, finisher and demonstrator of both natural and synthetic fibers and blends. He has published a number of technical articles and holds several patents.

He began his career with Kalle & Co., in that firm's laboratory. Later, he was chief chemist for standardization at Newport Chemical Works, until that firm became part of the Du Pont Co. He then entered the sales field in dyestuffs, fine chemicals and aromatics. In 1946, he became sales manager of the textile department of Monsanto Chemical Co., and in 1952 joined his present firm, Synthron Inc.

Within the framework of A.A.T.C.C., Mr. Linberg has been a national vice-president, member of the national council, chairman of the 1946 and 1952 national conventions, and general program chairman of the recent Perkin Centennial. He has held offices in the Northern New England Section, has been active on national technical committees, and is presently chairman of the national convention committee and a member of the president's advisory committee.

Activities Of A.A.T.C.C. Council

The American Association of Textile Chemists and Colorists has been urged to help the cause of textile industry education by taking the lead in encouraging companies in the field to establish scholarships for high school students.

Prof. Henry A. Rutherford, of the department of textile chemistry, North Carolina State College, and chairman of the A.A.T.C.C. textile education committee, also urged A.A.T.C.C. to promote to industry the establishment of scholarships on a freshman level. Professor Rutherford's report on textile education was made at the recent meeting of the A.A.T.C.C. Council.

In a surprise presentation during the council meeting, Raymond W. Jacoby, consultant, Ciba Co. Inc., retiring president of the association, received an M.I.T. chair (a black-rung captain's chair with seal of the Massachusetts Institute of Technology, and an appropriate inscription) for his hard work and leadership as chairman of the executive committee of the recent Perkin Centennial. The chair was provided by contributions of members of the centennial executive committee, and the presentation was made by George O. Linberg, chairman of the general program committee for the Perkin Centennial, who has been elected president of the A.A.T.C.C. for 1957.

The council also approved a motion authorizing a new record-keeping system at A.A.T.C.C. headquarters in Lowell, Mass., to be installed under the supervision of the National Records Management Council, as a step toward proper preservation of A.A.T.C.C. records.

Ernest R. Kaswell, president of Fabric Research Laboratories, Dedham, Mass., vice-president of A.A.T.C.C. from the New England Region and chairman of the association's 1957 convention in the Hotel Statler, Boston, reported his committee plans to conduct an inexpensive convention to draw more people.

The council passed a resolution honoring the memory of Hugh Christison, charter member of A.A.T.C.C. who died Nov. 5. The council also passed a resolution of thanks to Leonard Manchester of National Aniline Division, Allied Chemical and Dye Corp., Boston, for his many years of service aiding Treasurer Albert E. Sampson, in the post of A.A.T.C.C. assistant treasurer.

A.A.T.C.C. Research Committee Activities

The Piedmont Section of the American Association of Textile Chemists and Colorists has been given a green light (*Ed. Note*—no shade specified) by the executive committee on research of the A.A.T.C.C. to proceed with a research project studying the application of radio chemical techniques to textile problems.

Meeting recently in New York, the E.C.R. voted approval of the proposed project as it was outlined by Dr. Luther B. Arnold Jr., of Vikon Chemical Co., Cambridge, Mass.

The A.A.T.C.C. committee also directed Edward Lawrence, of Cranston (R. I.) Print Works, to conduct further study in to the need of the wet processing industry for a proposed research study of the use of radiant heating in textiles. E.C.R. members felt there was need for further study on this subject before proceeding, Charles Dorn, chairman, said.

New members of the association's technical committee on research, approved by E.C.R. at this recent meeting, are: Fred Fortress, of Central Research Laboratories, Celanese Corp. of America; Genevieve M. Smith, in charge in New York textile laboratory, Sears, Roebuck & Co.; and P. J. Fynn, of the research laboratory, J. C. Penny Co.

The executive committee on research also approved four test method revisions on American Society for Testing Materials tests. They are: Definitions of Terms Relating to Textile Materials; Methods of Testing for Fineness of Wool Tops; Methods of Testing for Fineness of Wool; and Test for Fiber Strength of Wool Tops. Also approved was the withdrawal of the A.S.T.M. General Method of Testing Cotton Fibers.

E.C.R. also raised from tentative to standard the following A.A.T.C.C. test methods: Snag Resistance of Hosiery; Resistance to Wetting (Static Immersion Absorption), and Resistance to Water Penetration (Impact Penetration Test).

The A.A.T.C.C. technical committee on research made

changes in four committee chairmanships: Fred Steiger of Rohn & Haas Co. Philadelphia, replaces Dr. S. N. Glarum of Ciba Co. as chairman of the committee on antistatic finishes. John F. Warner of D. B. Fuller Co. replaces Harry C. Donaldson of Cluett, Peabody & Co. as chairman of the committee on dimensional changes; Ralph B. Smith of New Jersey Laundry and Dry Cleaning Institute, Newark, N. J., replaces P. J. Fynn as chairman of the washfastness committee; and Max W. Winkler of American Viscose Corp. replaces Emil Hansen, of General Dyestuff Co. as chairman of the committee on rapid control tests.

Purchasing Agents Elect Paisley Boney

The Carolinas-Virginia Purchasing Agents Association has elected Paisley Boney of Greensboro, N. C., as its president for the coming year. Mr. Boney, assistant manager of the purchasing department of J. P. Stevens & Co., succeeds W. F. P. Coxe, American Enka Corp., Enka, N. C., who becomes national director. Other officers of the group include Henry R. Michel, director of purchases, Celanese Corp. of America, Charlotte, N. C., vice-president; and R. B. Parker, Mill Power Supply Co., Charlotte, treasurer. J. Blake Boyd, Sonoco Products Co., Hartsville, S. C., and Francis O. Price, Dillard Paper Co., Greensboro, N. C., were elected directors for three-year terms.

Southeastern A.A.T.C.C. Elects Swiney

James W. Swiney, Fulton Bag & Cotton Mills, Atlanta, has been re-elected chairman of the Southeastern Section of the American Association of Textile Chemists & Colorists. Other officers of the group for the coming year include William B. Griffin, Dexter Chemical Corp., Atlanta, vice-chairman; E. R. Ravenel, Morton Salt Co., Decatur, Ga., secretary; William E. Fayssoux, Royce Chemical Co., Decatur, treasurer; Robert B. Hallowell, Coats & Clark Inc., Albany, Ga., councilor; and T. Howard McCamy, Seydel-Woolley Co., Atlanta, councilor.

Named members of the section committee were J. Elwood Barbre, Pepperell (Ala.) Mfg. Co.; Ralph Champion Jr., Pepperell Mfg. Co., Lindale, Ga.; George L. Dozier, Southern Dyestuff Corp., Marietta, Ga.; and Hazel L. Whittle, Eagle & Phenix Mills, Columbus, Ga.

Narrow Fabrics Institute Holds Annual Meet

The first annual meeting of the Narrow Fabrics Institute was held at the Hotel Roosevelt in New York City, Nov. 26-27. At a group luncheon on opening day, C. W. Moore, vice-president of Fletcher Works Inc. gave a talk on "Equipment Modernization," followed by a talk on "Credit" by Fred Kirchner Jr., vice-president of the National Credit Office.

The schedule included separate meetings of the webbing and tape sections, board meetings, and an over-all meeting of the entire institute. At the institute level, the following special committees were appointed: (1) committee on standard job descriptions; and (2) exploratory committee on uniform cost accounting. These were in addition to regular standing committees of the institute, including traffic, credit, membership, planning and program. Within each section, committees appointed included: (1) standards,

specifications and technical committee; (2) statistics committee; and (3) promotional committee.

Russell J. Neff, assistant to the president of Phoenix Trimming Co., Chicago, Ill., was elected board chairman, succeeding John Peffer of Buffalo (N. Y.) Weaving & Belting Co. Other elected officers include: *president*—Carlton H. Stauffer, president of York Narrow Fabrics Co.; *vice-president*—John A. DeAngelis, president, Murdock Webbing Co.; *treasurer*—E. B. Laughlin, president, Laughlin Textile Mills Inc.; and *secretary*—Thomas R. Beecher, president, Globe Woven Belting Co.

Board members include Thomas R. Beecher, Globe Woven Belting Co.; William Hammer, Everlastik Inc.; A. A. Kuhn, Fiber Mfg. Co.; E. B. Laughlin, Laughlin Textile Mills; James Love Jr., Burlington Narrow Fabrics; Wm. Lowndes Jr., Southern Weaving Co.; Russell J. Neff, Phoenix Trimming Co.; John Peffer, Buffalo Weaving & Belting Co.; and Carlton H. Stauffer, York Narrow Fabrics Co. Penn Affiliates continues as institute managers.

Textile Division, A.S.M.E., Re-Elects Ball

Harold Ball, chief engineer, Foster Machine Co., Westfield, Mass., has been re-elected chairman of the textile engineering division of the American Society of Mechanical Engineers. F. D. Snyder, engineering manager for Westinghouse Electric Corp., was elected secretary succeeding Robert M. Jones, vice-president in charge of research and development, Saco-Lowell Shops, Biddeford, Me. Victor F. Sepavich, Crompton & Knowles Corp., Worcester, Mass., was elected treasurer, succeeding J. F. Matthews of J. P. Stevens & Co., North Andover, Mass. Mr. Matthews was named a member of the division's executive committee, succeeding Mr. Jones. Continuing on the committee are Messrs. Ball and Synder; N. M. Mitchell, Barnes Textile Associates, Boston, Mass.; and Dr. Kenneth R. Fox, Fabric Research Laboratories, Dedham, Mass.

The election of officers was held at the division's annual meeting last month in New York City. On the technical side, the division heard the following papers: "Progress Report on Continuous Dyeing of Tufted Carpets," M. Gilbert Hopkins, manager of the textile machinery division, Rodney Hunt Machine Co., Orange, Mass.; "Results of Plant Installations," J. Walter Malloy, sales manager of Riggs & Lombard Inc., Lowell, Mass.; "Developments in Non-Woven Fabric Machines," John Senior, vice-president, Proctor & Schwartz, Philadelphia, Pa.; "Drives for Wool and Worsted Finishing Machines," Edmund C. Yurgelun, Forstmann Woolen Co., Glen Rock, N. J., and R. E. Parker, General Electric Co., Schenectady, N. Y.; "Techniques of Practical Plant Layout Planning for Finishing Plants," Richard B. Mitchell, vice-president, Barnes Textile Associates, Boston; and "Heat Balance Study," Perez O. Lewin, Lewin Engineering Co., Andover, Mass.

National Cotton Council To Meet Jan. 28-29

Greater markets for cotton and its products is the objective of programs to be considered Jan. 28-29 at the 19th annual meeting of the National Cotton Council at St. Louis. Delegates will be concerned with increasing cotton consumption through activities aimed at lowering its costs, improving quality, and promoting sales.

Three days of committee meetings, beginning Jan. 24, will precede the formal sessions which start Monday, Jan.

28. Committees will review programs in the fields of production and marketing, utilization research, sales promotion, and foreign trade and draft recommendations for 1957. These will be presented for approval of the delegate membership at the general assembly.

Programs to boost per capita consumption of cotton within a number of countries will receive particular attention. These efforts, initiated with the assistance of the cotton council and with funds provided under Public Law 480, already are helping U. S. cotton in its battle for world markets. High priority also will be allotted to study of long-range research needs for cotton, cottonseed and their products. Delegates at the 18th annual meeting of the council in Biloxi, Miss., last year voted to double its program of research and promotion. A new finance plan for these activities becomes effective Aug. 1, 1957.

Union Loses 'Right-To-Work' Suit In S. C.

A suit of considerable significance to the textile industry, brought by a union under South Carolina's right-to-work law, has been dismissed by the U. S. Fourth Circuit Court of Appeals. The suit, for $200,000 damages, was filed against a West Columbia, S. C., firm, Calico Engraving Co., for alleged interference with its contract. The appellate court's action upheld a ruling in the case by District Judge George Bell Timmerman at Columbia.

The Friendly Society of Engravers and Sketchmakers, a union of craftsmen that make engravings used in textile prints, brought the suit, charging the company tried to make employees leave the union and break off the sole bargaining position held by the union. These alleged actions of the company, the union contended, constituted unfair labor practices and violated the Taft-Hartley Law.

Judge Timmerman ruled the action could not be sustained under common law as the "defendant has a legitimate business interest which it may protect by any lawful means."

Chief Judge John J. Parker, who wrote the opinion of the Circuit Court, said the South Carolina right-to-work law "was clearly intended to preserve the right of laboring men to employment notwithstanding closed shop agreements entered into between employers and labor unions" and "not to confer upon labor unions the right to recover damages from employers because of unfair labor practices."

In cases involving unfair labor practices, Judge Parker pointed out that jurisdiction has been vested by Congress in the National Labor Relations Board. The South Carolina right-to-work law guarantees "that the right of persons to work shall not be denied or abridged on account of membership or non-membership in any labor union or labor organization." The union contended that as a "person" in a strictly legal sense that its case had justification under the state statute.

Judge Timmerman remarked that under the union's interpretation "churches and other organizations to which

an employee belonged and to which he customarily paid dues might also have causes of action against employers who refused to employ or threatened to discharge any person belonging to such church or other organization."

Arbitration Council Processed 165 Cases In '56

A total of 165 cases were submitted to the General Arbitration Council of the Textile Industry for arbitration during 1956, compared with 117 in 1955, and the highest number for any year since 1952 when 178 cases were received, Howard A. Sherman, secretary-treasurer of the council, reported at its 26th annual meeting held Dec. 11 at 93 Worth Street, New York City.

Of the 165 new cases received, 55 were settled or withdrawn by the parties prior to hearing, 54 have been heard, and 56 are still pending. Hearings in new and previously pending cases totalled 85 in the year against 66 the previous year, Mr. Sherman stated, and the claims or amounts involved in these cases totalled $812,000. The smallest amount involved was $229 and the largest in any single case was $103,181. Eight of the cases heard involved amounts in excess of $25,000.

W. Ray Bell, chairman of the council and president of The Association of Cotton Textile Merchants of New York, who presided at the annual meeting, congratulated Mr. Sherman and his staff on the heavy volume of work they had carried during the year and their substantial contribution to the textile industry. He also extended his thanks to all persons in the industry—manufacturers, merchants, converters, brokers, wholesalers, jobbers, finishers, yarn spinners, factors, exporters, garment manufacturers, knitgoods and linen interests, retailers and narrow fabric people—who over the year have given freely of their time and experience in serving on arbitration panels. The arbitration service, he said, was a vital and most necessary part of the textile industry.

Mr. Sherman noted that 73 of the cases heard were before three-man panels, a single arbitrator in the other 12 cases. Attorneys were present in 64 hearings, not so in the remaining 21. Altogether 231 persons served as arbitrators in the cases heard, all without compensation. The panel of abitrators currently numbers 539 members, from whom disputants select arbitrators for their cases, and 88 new membes have been added to the panel during the year.

Awards were made in 81 of the cases. Only eight cases were majority decisions, the other 73 being unanimous or heard by a single arbitrator.

Needed: 5,000 College-Trained Textilists

A textile industry leader has made a direct bid for the co-operation of South Carolina's high schools in providing trained personnel for the state's vast cotton production and cloth manufacturing activities.

F. E. Grier, president of the American Cotton Manufacturers Institute, says there are thousands of job opportunities awaiting the young people of South Carolina who complete their education in the next ten years.

Speaking before a group of guidance counselors meeting at Clemson College, Mr. Grier said: "Our whole economic future is wrapped up in cotton and textiles. And if our state meets the challenge of the future, it will meet the challenge of the manpower needs of the cotton industry." He told the counselors the textile industry, in the next ten years, will need more than 5,000 college-trained men and women, more than twice the number of students presently enrolled in the nation's textile colleges.

Mr. Grier pointed out that 71 per cent of manufacturing wages in South Carolina are provided by the textile industry. He also noted that the economic situation in South Carolina that caused the state's young people to search elsewhere for better opportunities was changing for the better. "But," he added, "the change is developing so fast that I wonder if South Carolina will be able to produce highly skilled young people fast enough to meet the needs of our growing textile industry."

Mr. Grier said the textile firms will require industrial engineers, textile chemists, chemical engineers, accountants and hundreds of electrical, mechanical and ceramic engineers. He added, however, that the estimated personnel needs are based on 1956 production methods, products and conditions and did not attempt to take into consideration the needs that would result from technological advancements accompanying the application of atomic sciences and newfound electronics. "I am confident," said Mr. Grier, "that when the needs of the cotton industry are known, we will meet our manpower requirements."

$97 Million For 1st Quarter Mill Expansion

The textile mill products industry is expected to spend $97 million on new plants and equipment in the first quarter of 1957, according to a joint report compiled by the U. S. Commerce Dept. and the Securities and Exchange Commission. This is ten per cent less than first quarter 1956 expenditures of $108 million and estimated fourth quarter 1956 expenditures of $106 million.

Comparing the $97 million figure with industry in general, the report estimates that a record $38 billion, at an annual rate, will be spent for new plants and equipment in the first quarter of the new year.

Albany Felt Expands Scholarship Program

Appropriation of funds for five new grants has raised the scholarship program of Albany Felt Co. to a total of 13 annual grants to qualified high school graduates and college students. Eight existing scholarships are renewable annually up to a maximum of four years; the five new ones, to be awarded next Spring, are four-year grants. Scholarships have an annual value of $500 or $600 and include an opportunity for Summer employment at Albany Felt Co. The purpose of the program, according to Lewis R. Parker, president of the company, is to encourage young men to major in textile manufacturing, engineering, chemistry and physics in order to help meet the nation's demand for professionally trained men.

This year's grants will help students at Rensselaer Polytechnic Institute, Philadelphia Textile Institute, Lowell Technological Institute, Clarkson College of Technology and North Carolina State College. The five scholarships open next June will be valid in the following colleges and universities: Bates, Bowdoin, Clarkson College of Technology, Clemson, Colby, Dartmouth, Georgia Institute of Technology, Hamilton, Hobart, Lowell Technological Institute, Rensselaer Polytechnic Institute, Rhode Island School of Design, Syracuse, Trinity, Union, University of Maine, University of Massachusetts, University of New Hampshire, University of Vermont, Wesleyan, Williams and Yale.

Reviewing The World Wool Situation

The annual review of the world wool situation by the *Textile Organon,* statistical bulletin of the Textile Economics Bureau Inc., indicates that global output of wool is expected to increase for the ninth consecutive season to the 1956-1957 level of 4,865,000,000 pounds (greasy basis). The estimated clean equivalent yield is placed at 2,802,000,000 pounds, comprising 2,265,000,000 pounds of apparel wool and 537,000,000 pounds of carpet wool.

In a further breakdown of the apparel wools, the *Organon* points out that the more expensive Merino wool constituted 46 per cent of total apparel wool output for the 1956-1957 season. Thus Merino poundage will come to 1,043,000,000 pounds, while production of the less expensive crossbred types amounted to 1,222,000,000 pounds. The *Organon* points out that the growth in Australian wool output is the major factor in the trend toward apparel wool, and more specifically toward Merino wool.

Australian wool production in the 1956-1957 season is estimated at 1,480,000,000 pounds, an increase of 5½ per cent over the previous season. The *Organon* notes that Australian wool output has set a new record each season since 1953-1954. New Zealand's wool output in the latest season came to 470,000,000 pounds, an increase of two per cent compared to the previous season. This country has produced between 9½ and ten per cent of total world output since the end of World War II.

Argentina, the world's third ranking wool grower, and largest producer of carpet wool, produced 395,000,000 pounds in the 1956-1957 season. This represents a gain of 38,000,000 pounds or 10½ per cent over the previous season. Nevertheless, current wool output in Argentina is considerably below World War II and postwar levels when production ranged between 450,000,000 and 500,000,000 pounds per year. The *Organon* points out that the declining trend is attributed to economic difficulties affecting wool producers and more particularly to the very low rate of exchange in force for wool exports up until October 1955. At that time, currency devaluation and other economic measures were taken by the new Argentine government to provide incentives for wool growers.

A marked improvement in output of wool in the Union of South Africa has brought the level to more than that of prewar years. With its wool all of the apparel type, output in South Africa in the 1956-1957 season is estimated at 315,000,000 pounds, a gain of 2½ per cent over the previous season.

United States wool production, according to the *Organon,* is estimated at 274,000,000 pounds, a slight decline from the previous season, but 12 per cent under the 1945-1949 postwar average of 311,000,000 pounds and 38 per cent under the wartime 1940-1945 average yield of 440,000,000 pounds per year. This country's share of total world output continues to decline and, in the latest season, represented 5½ per cent compared with 10½ per cent during World War II.

Moreover, sheep population in the United States, after a slight recovery in the 1951-1952 season, is declining again. Sheep population at the beginning of the current year was estimated at 31,000,000 head, the third lowest

since records of sheep population were first kept nearly 100 years ago.

Uruguay, smallest of the major wool producing countries, will produce about four per cent of total world output in the 1956-1957 season with an estimated 198,000,000 pounds.

The *Organon* points out that the six major producing countries together are estimated to account for 64½ per cent of total world wool output in the current 1956-1957 season. The balance comes from practically every other country in the world in varying amounts. Those with output of 50,000,000 pounds or more include United Kingdom whose 1956-1957 output is estimated at 108,000,000 pounds, a gain of four per cent; Spain 88,000,000 pounds and a gain of 3½ per cent; Turkey 82,000,000 pounds, a gain of one per cent; India 72,000,000 pounds; and France and Brazil 55,000,000 pounds each.

Stocks in wool consuming countries at the beginning of the year were estimated at 828,000,000 pounds (clean basis) representing about 3½ months' supply at the 1955-1956 rate of consumption. There has been a steady increase in the wool clip from season to season. Except for a drop in the 1953-1954 season, consumption has shown a general increase since 1950-1951, and thus stock changes in wool producing countries have been comparatively small.

The *Organon* notes that, in order to place wool in its proper perspective as a major fiber competing for world textile markets, output must be compared with that of cotton and the man-made fibers. Wool production in the 1955-1956 season totaled 2,724,000,000 pounds (clean basis) compared with 18,400,000,000 pounds of cotton and 5,579,000,000 pounds of man-made fibers. Cotton thus represented 69 per cent of total world fiber supply, man-made fibers 21 per cent, and wool ten per cent.

Significant changes in fiber production are illustrated by comparison with the prewar 1935-1940 period. Then cotton production at 13,800,000,000 pounds was 77½ per cent of the three-fiber total, wool at 2,296,000,000 pounds was 13 per cent and man-made fiber at 1,677,000,000 pounds was but 9½ per cent.

Wool consumption in the U. S. is estimated by the *Organon* to be 457,000,000 pounds in 1956. Apparel wool consumption is placed at 313,000,000 pounds, a 5½ per cent gain over 1955. Carpet wool consumption is placed at 144,000,000 pounds, an increase of nine per cent over last year.

November Rayon And Acetate Shipments

Rayon and acetate filament yarn and staple+tow shipments in November totaled 98,200,000 pounds, according to the *Textile Organon*, statistical bulletin of the Textile Economics Bureau Inc. These shipments were only 3½ per cent under the 102,000,000 pounds shipped in October, and 8½ per cent below November 1955 shipments of 107,300,000 pounds.

November shipments comprised 96,900,000 pounds for domestic markets and 1,300,000 pounds for export. High tenacity shipments during the month amounted to 25,000,000 pounds, a figure 14½ per cent under shipments in the previous month. Regular+intermediate tenacity rayon yarn shipments came to 16,100,000 pounds, a decline of 1,000,000 pounds from the previous month. November shipments of acetate filament yarn amounted to 18,500,000 pounds, a gain of 1,100,000 pounds compared with October and

300,000 pounds more than shipments in November 1955.

Rayon staple+tow shipments in November totaled 33,700,000 pounds, a figure just under the 33,800,000 pounds in October but 8½ per cent larger than those of November 1955. For the second consecutive month, there was an increase in acetate staple+tow shipments and these totaled 4,400,000 pounds last month.

The *Organon* noted that the stock of rayon and acetate yarn and staple in the hands of producers at the end of November totaled 106,400,000 pounds, a decrease of 2,800,000 pounds from October. It was noted also that November marked the fourth consecutive month of stock declines.

Margin Of Over-Production Vanishing

The margin of potential over-production in the cotton textile industry is vanishing as a consequence of record hours of operation of existing reduced spindleage, and is clearing the way for balance in the forces of supply and demand, according to W. Ray Bell, president of The Association of Cotton Textile Merchants of New York.

Writing in the 25th annual publication of the association's annual *Ten Years of Cotton Textiles* survey and statistical chart, Mr. Bell noted that in 30 years hours operated per active spindle had doubled from 3,000 hours a year to a record 6,113 hours in 1955, exceeding the war-time top. Total hours run in 1955 were 126,338 million, exceeded only in 1942 when the nation had four million more spindles than now. Conditions locally and in various industry areas may render more intensive operation unfeasible, he said. At the same time spindleage has been dropping, with 1,709,000 liquidated in the decade, and 531,000 more lost in the first nine months of 1956. Currently total active cotton consuming spindles number only 18,780,000, little more than half the number of 30 years ago.

At some point in the near future, Mr. Bell said, the lines of spindle mortality and more intensive operation must cross. The period of stability or "even saturation" may be near, and a "renaissance of the cotton textile industry within two years time based on elimination of over-capacity and a tighter line between the forces of supply and demand" has been predicted by textile analysts.

The report showed a four per cent increase in square yard production of cotton goods in 1955 from 1954, with a likelihood that 1956 will show an outturn of goods equal to 1955 despite the price decline which extended from February to September, 1956. It revealed a constant rate of per capita cotton consumption at approximately 65 yards. With the rise in population this should mean public requirements this year for some 10,920 million square yards. Actual production for 1955 was placed by the association at 11,319,347,000 square yards and the available yardage after import-export adjustment at 10,910,100,000.

Contrasted with the more optimistic potentials of the

market, Mr. Bell cited "the growing threat of competition of imports of textiles and apparel" made chiefly in Japan with "unbelievably cheap labor" plus the "substantial benefits of sharply reduced tariff rates" in late 1955 and the new 1956 U. S. Government policy of selling cotton to foreign purchasers at "20 to 25 per cent below the price American mills are forced to pay." The absence of a compensating tax or other protection in the government's cotton policy he called "a neglected scandal."

Mr. Bell found hope that current negotiations between the U. S. and Japanese governments would provide necessary limitations, with over-all Japanese quotas on textile and apparel imports and for the various product divisions.

Carded Cotton Sales Yarn Backlog—Nov. 1

Unfilled orders among carded cotton sales yarn spinners totalled 11.37 weeks' production at the start of November, according to the Carded Yarn Association. Production in the week ended Nov. 3 consisted of 39.3 per cent knitting yarn, 34 per cent weaving yarn and 26.7 per cent all others. The backlogs on orders the first of the month were 7.59 times stocks on hand. On Nov. 5, 1955, unfilled orders amounted to 11.20 weeks' production and were 9.76 times stocks on hand. Spinners' inventories, including yarn made for future deliveries against unfilled orders, amounted to 1.50 weeks' production on Nov. 3. On Nov. 5, 1955, they amounted to 1.14 weeks' production.

Final Cotton Crop Estimate Hiked

The Department of Agriculture this month estimated the 1956 cotton crop at 13,303,000 bales of 500 pounds gross weight. This final estimate of the season is 150,000 bales more than the November forecast of 13,153,000 bales. It compares also with the 14,721,000 bales produced in 1955, and 13,098,000 for the ten-year average (1945-54).

The estimated crop is well above the ceiling of ten million bales to which the department had sought to hold production. The department had imposed acreage planting allotments and marketing quotas in an attempt to hold down production since cotton stocks, including huge government-owned surpluses, are at an all-time high. The department hopes to reduce cotton stocks sharply within the next year through government-financed export programs.

In an accompanying report, the Bureau of the Census, U. S. Department of Commerce, said that 12,385,333 running bales from the 1956 crop had been ginned prior to Dec. 1. This number compares with 13,049,331 bales ginned for the same period in 1955, and 12,455,445 in 1954.

The indicated acre yield was put at an average of 408 pounds for the 1956 crop, down slightly from the 417 pounds in 1955. The ten-year average totals 283 pounds per acre.

(Continued from Page 97)

of wo[illegible] process. The announcement, made [illegible] December by V. O. Rob[illegible] manager of the fabric p[illegible] M. & M. Inc., [illegible] egin to run [illegible] uth of

[redacted]

ed air conditioning system at a cost of some $171,000. According to Robert S. Small, vice-president, two brick apparatus rooms will be added to the front of the mill, as well as a water cooling tower. Three Carrier air conditioning and refrigerating machines will be used with a daily capacity of 350 tons. They will completely refrigerate the cloth, weaving, warper and quiller rooms. The system will handle 156,000 cubic feet of air per minute. Plans call for completion of the work about the middle of next May. The Bahnson Co. has been awarded the air conditioning contract, and Daniel Construction Co. will construct the buildings.

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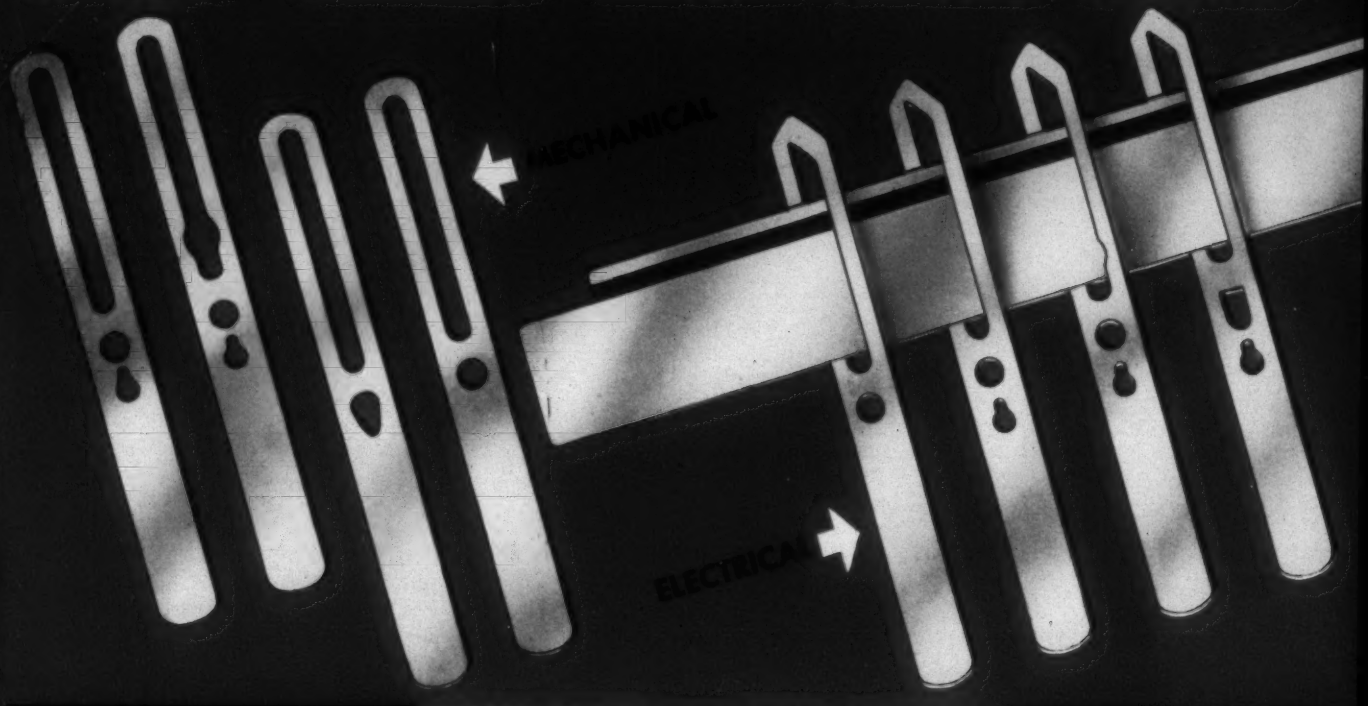

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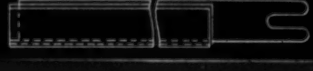

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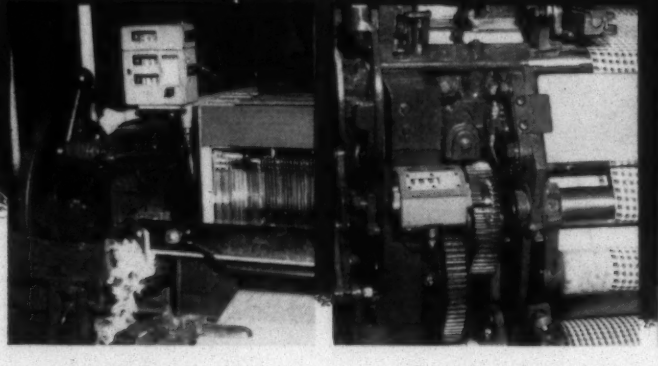

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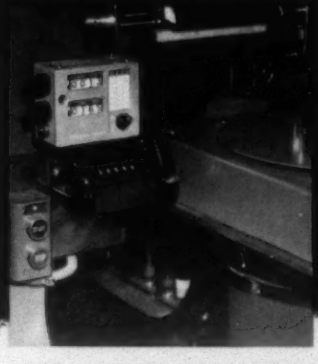

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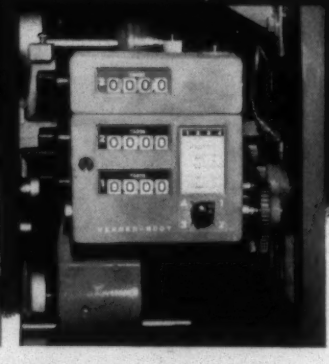

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